

Service Manual

Dolby B • C NR-Equipped
Stereo Double Cassette Deck

Cassette Deck
RS-X866



Color

(K)...Black Type



Color	Areas
(K)	[E].....All European areas except United Kindom.
(K)	[EK].....United Kingdom.
(K)	[EH].....Holland.
(K)	[EG].....F.R. Germany.
(K)	[XA].....Asia, Latin America, Middle Near East, Africa and Oceania.
(K)	[XL].....Australia.
(K)	[XB].....Saudi Arabia.

SPECIFICATIONS

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
(DECK A) REC/PLAY	Solid Permaloy head
Erasing	Double-gap ferrite head
(DECK B) PLAY	Solid Permaloy head
Motors	
(DECK A) Capstan/reel table drive	2 speed electronically controlled DC motor
(DECK B) Capstan/reel table drive	2 speed electronically controlled DC motor
Recording system	AC bias
Bias frequency	85 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec.
Frequency response	
METAL	30 Hz~17 kHz (±15 dB) 40 Hz~16 kHz (DIN)
CrO₂	30 Hz~17 kHz (±15 dB) 40 Hz~16 kHz (DIN)
NORMAL	30 Hz~16 kHz (±15 dB) 40 Hz~15 kHz (DIN)

S/N (signal level=max recording level, CrO₂ type tape)

DOLBY C NR on 74 dB (CCIR)

DOLBY B NR on 66 dB (CCIR)

DOLBY NR off 56 dB (A weighted)

Wow and flutter 0.07 % (WRMS)

Fast Forward and Rewind Time ±0.2 % (DIN)

Approx. 95 seconds with C-60 cassette tape

Input sensitivity and impedance

LINE 60 mV/47 kΩ

Output voltage and impedance

LINE 400 mV/1.5 kΩ

Power consumption 16 W

Power supply

For continental Europe AC 50 Hz/60 Hz, 220 V

For others AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V

Dimensions (W × H × D) 360 × 128 × 295 mm

Weight 4.7 kg

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

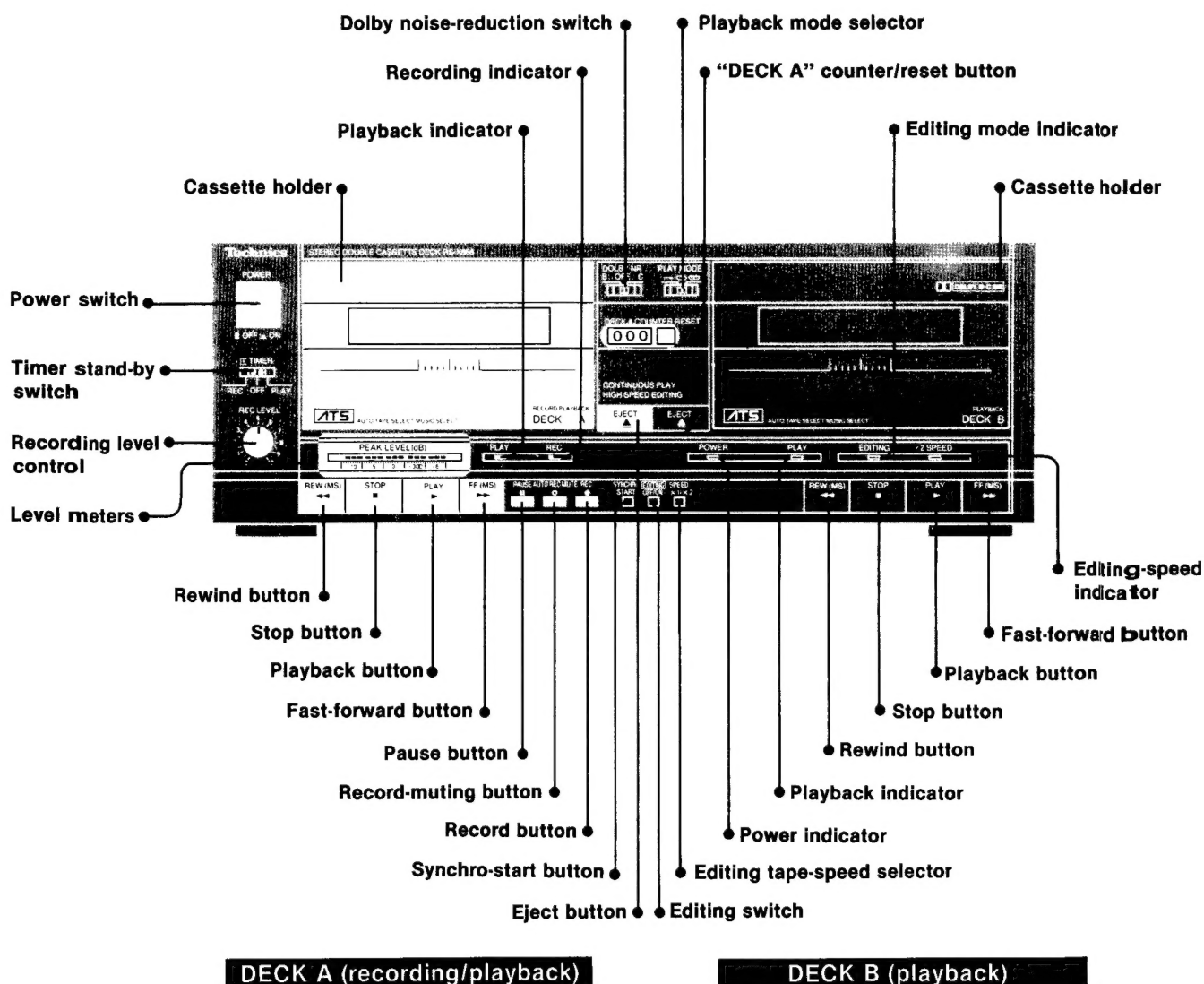
Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

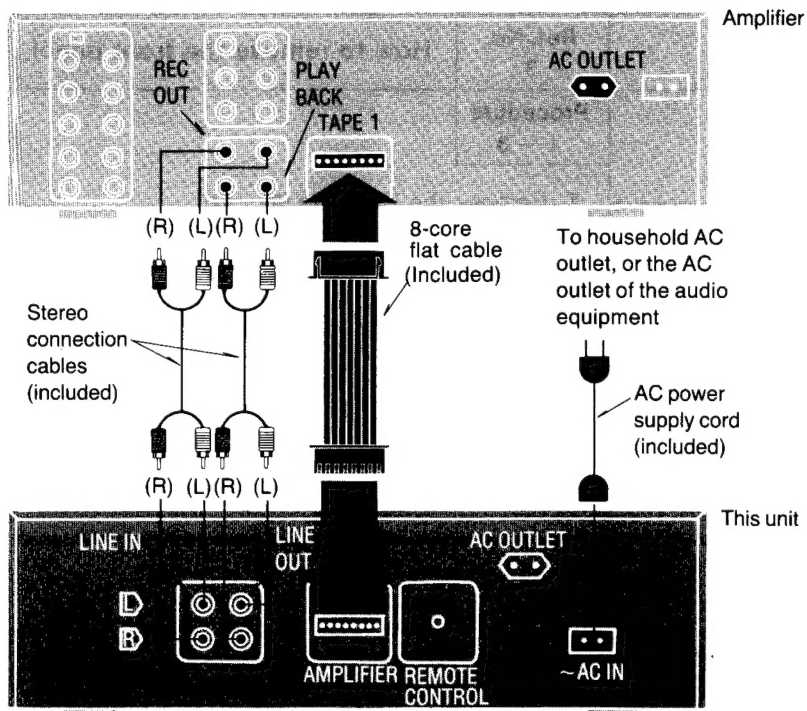
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LOCATION OF CONTROLS



■ HOW TO CONNECTION



Notes:

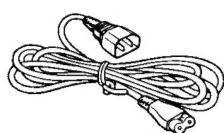
- 1. Remote control output terminal:**
This terminal can be used only with Technics graphic equalizer or compact disc player having a remote control terminal for a tape deck.
(Refer to the operating instructions of the amplifier.)
- 2. AC outlet**
Do not exceed the indicated power rating when connecting to this outlet.

■ ACCESSORIES

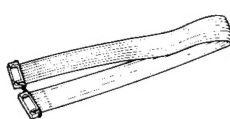
● AC power supply cord 1

● 8 core flat cable 1

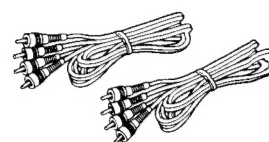
● Stereo connection cables 2



SFDAC05E03 [E, EG, EH]
SJA168-1 [XA]
SJA173 [XL]
SJA183 [XB]
SJA188 [EK]

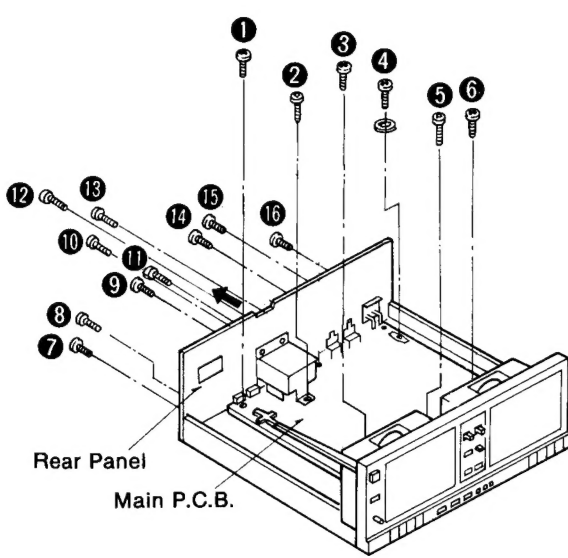
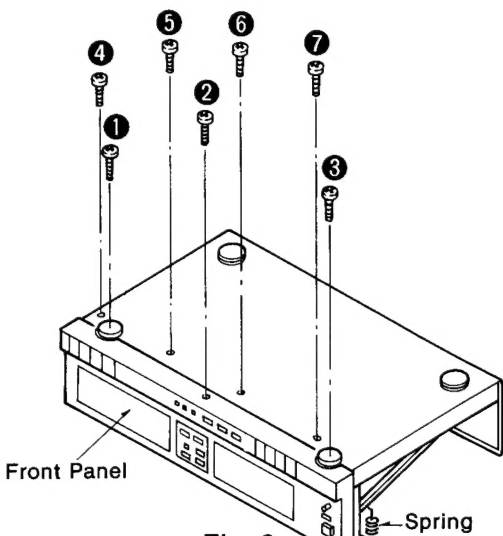
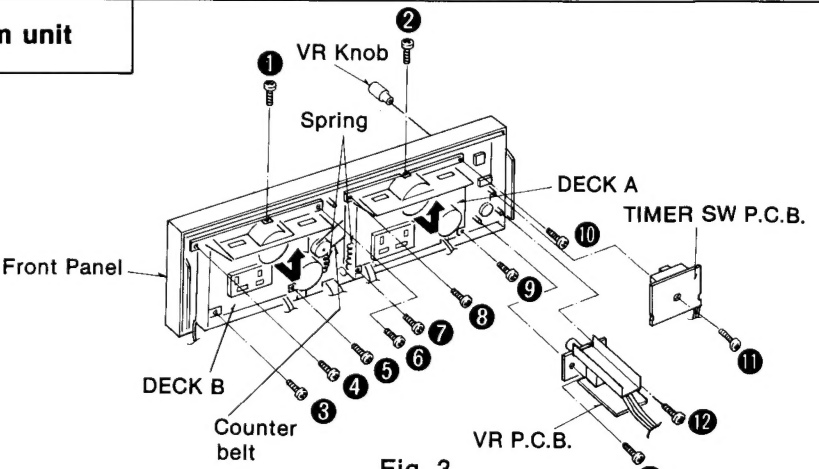


SPBM9002



SJP2264

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	How to remove the cabinet	Ref. No. 3	How to remove the front panel
Procedure 1	• Remove the 6 screws.	Procedure 1 → 3	
Ref. No. 2	How to remove the main P.C.B.	<ol style="list-style-type: none"> 1. Remove the 7 screws (①~⑦). 2. Remove the spring. 3. Push the Eject button, and then remove the front panel. 	
Procedure 1 → 2			
<ol style="list-style-type: none"> 1. Remove the 16 screws (①~⑯). 2. Remove the Rear panel in the direction of arrow, and then remove the Main P.C.B.  <p>Fig. 1</p>		 <p>Fig. 2</p>	
Ref. No. 4	How to remove the mechanism unit		
Procedure 1 → 3 → 4			
<ol style="list-style-type: none"> 1. Remove the 10 screws (①~⑩). 2. Remove the Counter belt (for DECK A). 3. Remove the Springs. 4. Push the Eject button. 5. Remove the Mechanism (DECK A, B) in the direction of arrow. 		 <p>Fig. 3</p>	

Ref. No. 5	How to remove the timer sw P.C.B. and VR P.C.B.
Procedure 1 → 5	<ol style="list-style-type: none"> 1. Remove the one screw (1), and then remove the Timer sw P.C.B. (See Fig. 3). 2. Remove the VR knob (See Fig. 3). 3. Remove the 2 screws (2, 3), and then remove the VR P.C.B. (See Fig. 3).
Ref. No. 6	How to remove the operation sw P.C.B. and NR/Mode sw P.C.B.
Procedure 1 → 3 → 4 → 6	<ol style="list-style-type: none"> 1. Remove the 3 screws (1~3), and then remove the Operation panel. 2. Remove the 5 screws (4~8), and then remove the Operation sw P.C.B. 3. Remove the Spacer in the direction of arrow. 4. Remove the one screw (9), and then remove the NR/Mode sw P.C.B.

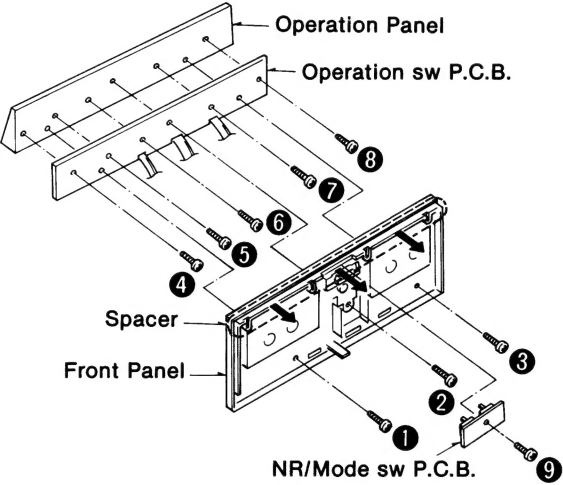


Fig. 4

MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Input level control; Maximum
- Editing switch; Off
- Noise reduction select switch; Off
- Editing tape speed switch; X1
- Timer start switch; Off

- Playback mode selector; \rightleftarrows
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature $20 \pm 5^\circ \text{C}$ ($68 \pm 9^\circ \text{F}$)

Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

- ATT (Attenuator)
- DC voltmeter
- Resistor (600 Ω)

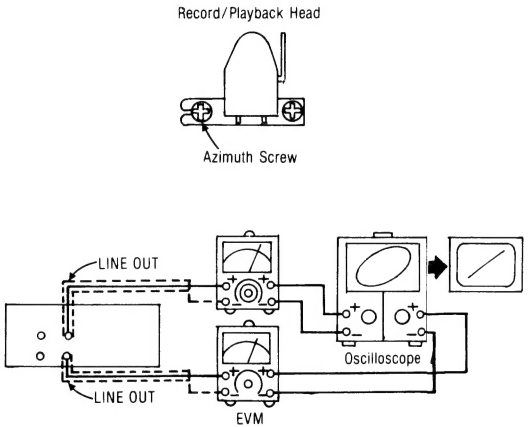
Test tape

- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250kHz, 125kHz, 63kHz, -20dB); QZZCFM

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
Normal reference blank tape; QZZCRA
CrO₂ reference blank tape; QZZCRX
Metal reference blank tape; QZZCRZ

HEAD AZIMUTH ADJUSTMENT

1. Playback the azimuth adjusted part (8kHz, -20dB) of the test tape (QZZCFM) and regulate the angle adjusting screw so that the outputs of L-CH and R-CH are maximized. (When the adjusting positions are different with L-CH and R-CH, find a position where the outputs of L-CH and R-CH are balanced, and then make the adjustment.)
2. At the same time, obtain a lissajous waveform and eliminate phase deflection.
3. After adjustment, lock the tape guide height and angle adjustment screws.



TAPE SPEED ADJUSTMENT (DECK A, B)

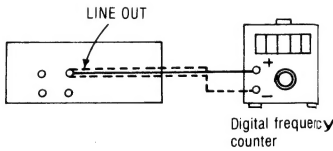
High speed

1. Set the editing tape speed switch to "X2" and ground the Deck B=TP4 and Deck A=TP3
2. Playback the middle part of the test tape (QZZCWAT).
3. Adjust Deck B=904 and Deck A=VR902 so that the output is within the standard.

Normal speed

4. Set the editing tape speed with to "X1" and open the Deck B=TP4 and Deck A=TP3.
5. Playback the middle part of the test tape (QZZCWAT).
6. Adjust Deck B=VR903 and Deck A=VR901 so that the output is within the standard.

Standard value: $3000 \pm 15 \text{ Hz}$ (Normal), $6000 \pm 30 \text{ Hz}$ (High)



PLAYBACK FREQUENCY RESPONSE (DECK A, B)

1. Playback the playback frequency response part (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
2. Check that the frequency is within the range shown in Fig. 1 for both L-CH and R-CH.

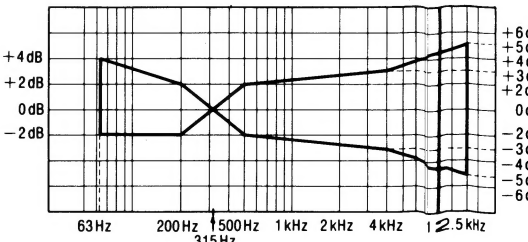
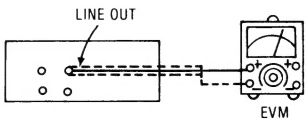
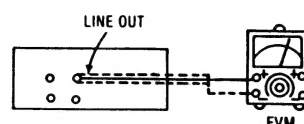


Fig. 1

PLAYBACK GAIN ADJUSTMENT (DECK A, B)

1. Playback the playback gain adjusted part (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck B=VR1 (L-CH) [VR4 (R-CH)] and Deck A=VR3 (L-CH) [VR2 (R-CH)] so that the output is within the standard.

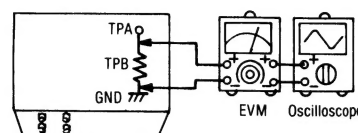
Standard value: $0.4V \pm 0.5dB$



ERASE CURRENT ADJUSTMENT (DECK A)

1. Insert a metal tape.
2. Press the record and pause buttons.
3. Adjust VR303 so that the output between TP1 and ground is within the standard.

Standard value: $170 \pm 10mA$ (Metal) ($170 \pm 10mV$)



TPA: TP1
TPB: VR303

OVERALL FREQUENCY RESPONSE (DECK A)

1. Set a normal blank tape (QZZCRA) and record by applying signal (50Hz ~ 10kHz), 20dB attenuated from the reference input level signal (1kHz, -24dB).
2. Playback the signal recorded in step 1, and check that the level of each output frequency is within the range shown in Fig. 2 in comparison with the reference frequency (1kHz).
3. If it is not within the standard range, adjust the bias current by VR11 (L-CH) and VR12 (R-CH) so that the frequency level is within the standard.

- Level up in high frequency range ...
Increase the bias current.
- Level down in high frequency range ...
Decrease the bias current.

4. After that, increase the signal recorded on CrO₂ blank tape (QZZCRX) and metal blank tape (QZZCRZ) up to 14kHz and adjust in the same way as mentioned above and check that the frequency level is within the range shown in Fig. 3.

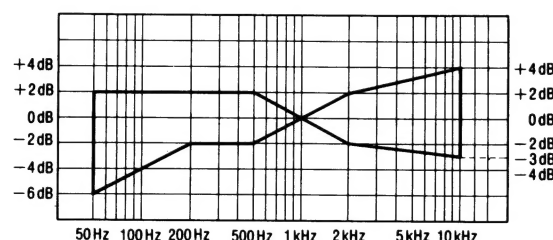


Fig. 2

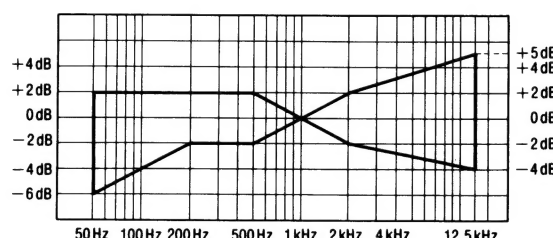
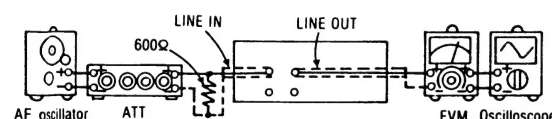


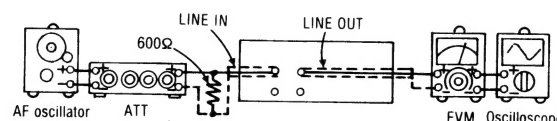
Fig. 3



OVERALL GAIN ADJUSTMENT (DECK A)

1. Set a normal blank tape (QZZCRA) and apply the reference input level signal (1kHz, -24dB) in record pause mode.
2. Adjust the output 0.4V by attenuator and then record.
3. Playback the signal recorded in step 2, and check that the output is within the standard.
4. If it is not within the standard, adjust VR7 (L-CH) and VR8 (R-CH) and repeat the step (1), (2) and (3) until the output is within the standard.

Standard value: $0.4V \pm 0.5dB$



DOLBY NR CIRCUIT

1. Set a normal tape and apply 1kHz signal in record pause mode.
2. Adjust by attenuator so that the output between terminal 7 of IC401 (L-CH) [IC402 (R-CH)] and ground is 12.3mV.

—Dolby B (Encode characteristic)—

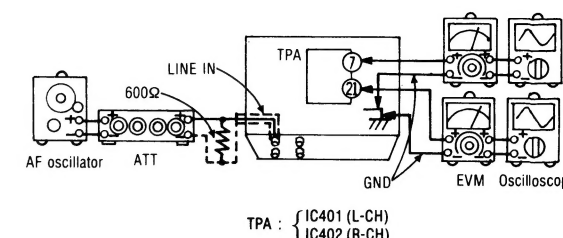
3. Set NR switch to "Dolby B" and change the input signal to 1kHz, 5kHz.
4. Check that the output between terminal 21 of IC401 (L-CH) [IC402 (R-CH)] and ground change as specified from the level in NR out mode.

Standard value: $6 \pm 2.5dB$ (1kHz), $8 \pm 2.5dB$ (5kHz)

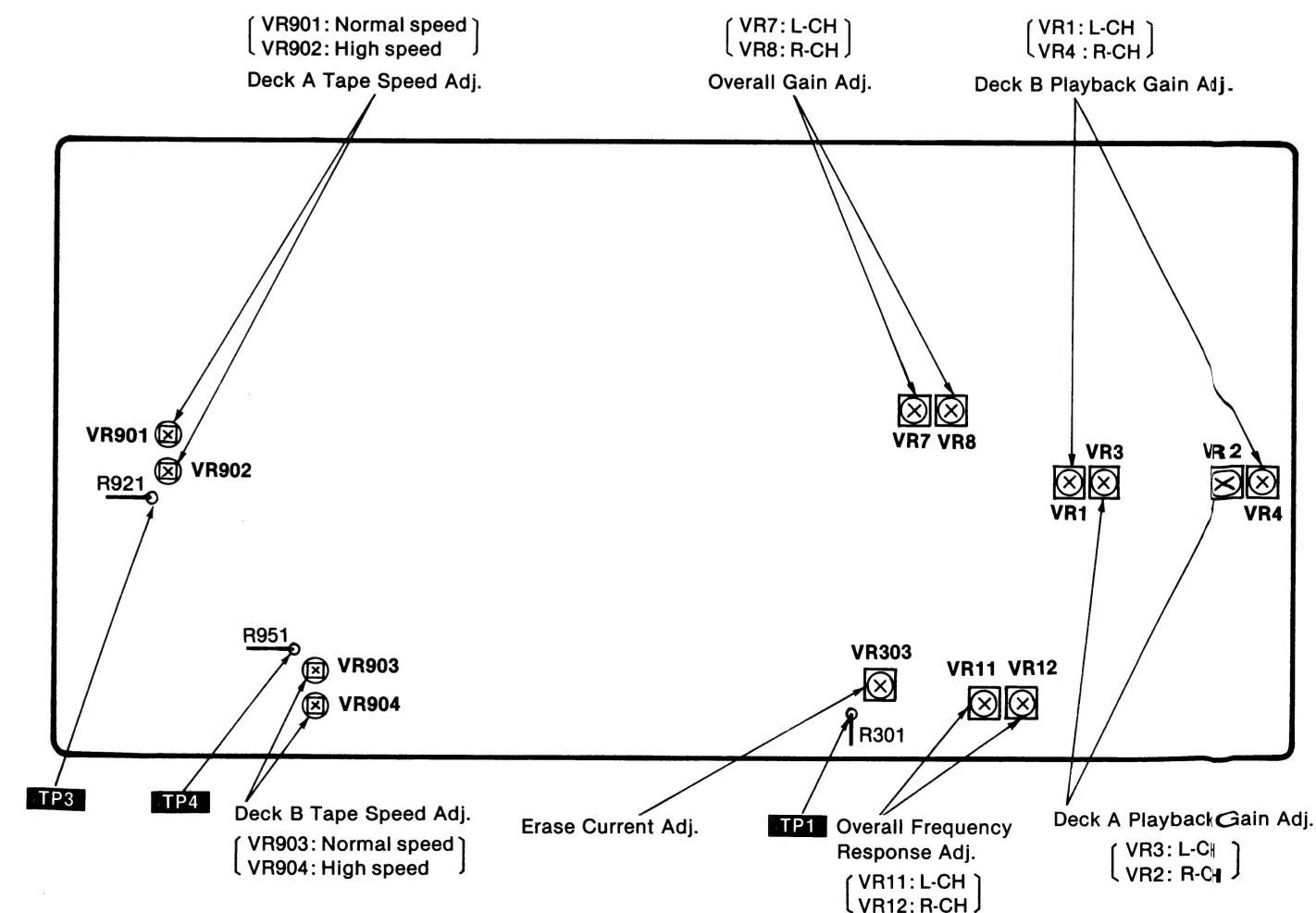
—Dolby C (Encode characteristic)—

5. Set NR switch to "Dolby C" and change the input signal to 1kHz, 5kHz.
6. Check that the output between terminal 21 of IC401 (L-CH) [IC402 (R-CH)] and ground change as specified from the level in NR out mode.

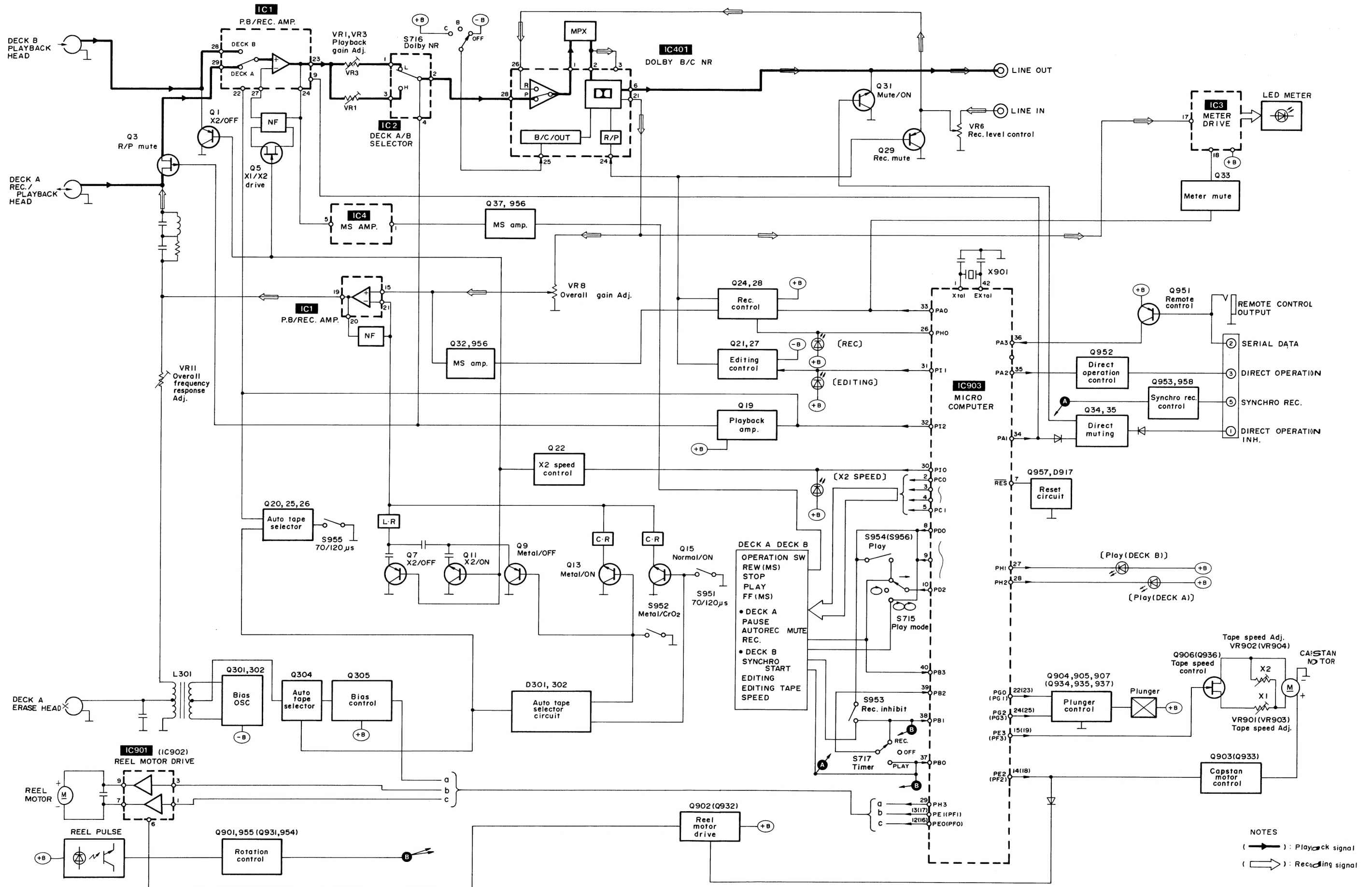
Standard value: $11.5 \pm 2.5dB$ (1kHz), $8.5 \pm 2.5dB$ (5kHz)



•Adjustment Points

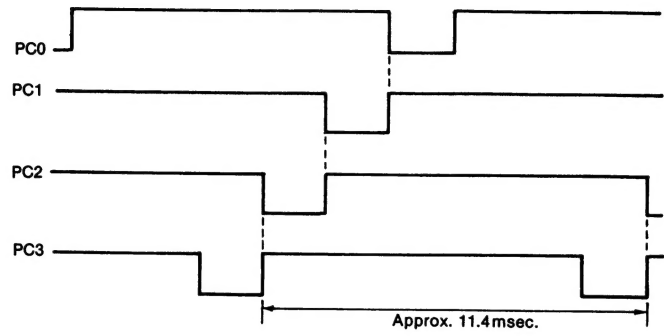
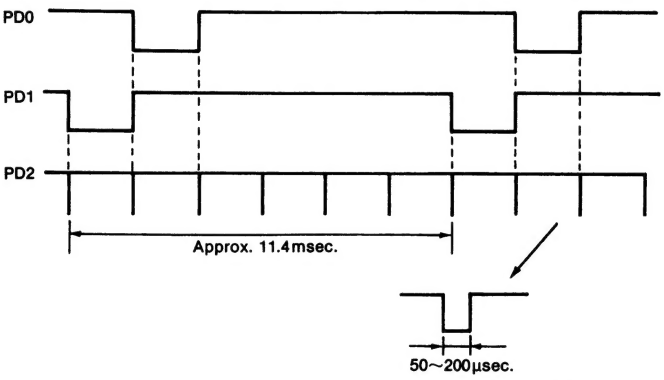


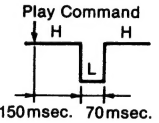
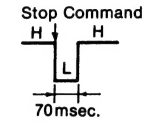
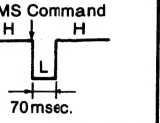
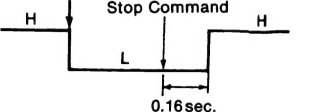
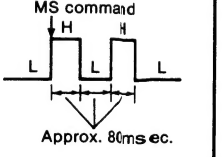
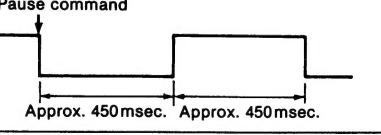
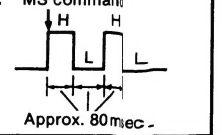
BLOCK DIAGRAM

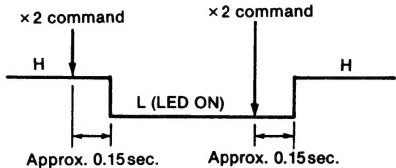
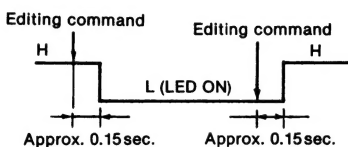
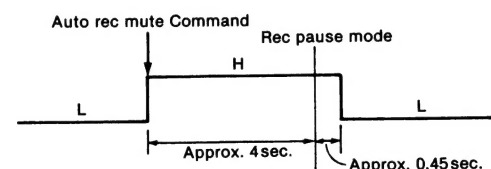
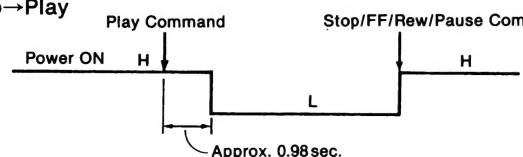
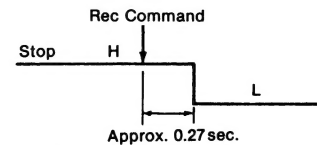
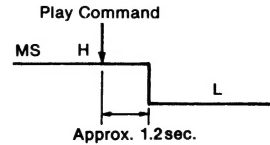


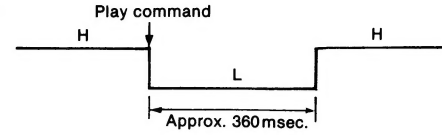
NOTES
 (—) : Playback signal
 (—) : Recording signal

■ MICROCOMPUTER TERMINAL FUNCTION AND WAVEFORM **IC903 (LM6402G-2114)**

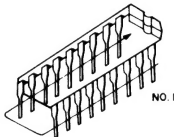
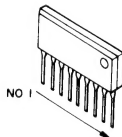
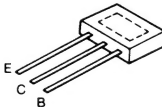
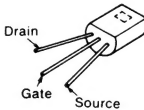
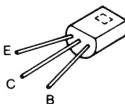
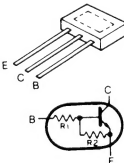
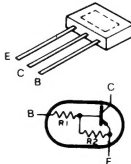
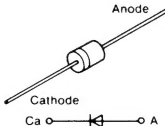
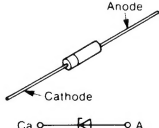
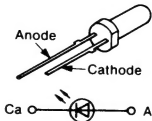
Terminal No.	Symbol	Name	Function/operation
1. 42.	Xtal Extal	Clock oscillation	• Clock oscillation of Approx. 4MHz.
2. 3. 4. 5.	PC0 PC1 PC2 PC3	Scan output	 <p>Approx. 11.4msec.</p>
6.	INT	Power off detection	• In power off mode, "H" in direct muting mode.
7.	RES	Reset terminal	<ul style="list-style-type: none"> • Used to reset the microcomputer when power is thrown in. • Reset at "L" level.
8. 9. 10.	PD0 PD1 PD2	Scan output	 <p>Approx. 11.4msec.</p> <p>50~200μsec.</p>
11.	PD3	—	• Non connection.
12.	PE0	Deck A Reel (FF/REW) motor drive	• "H" in REW mode.
13.	PE1	Deck A Reel (FF/REW) motor drive	• "H" in FF mode.
14.	PE2	Deck A Capstan motor drive	<ul style="list-style-type: none"> • "H" in Stop, Pause, FF, REW and MS search mode. • "L" in Rec and play mode.
15.	PE3	Deck A Capstan motor speed control	• "H" in Normal speed mode (×1), and "L" in High speed mode (×2).

Terminal No.	Symbol	Name	Function/operation
16.	PF0	Deck B Reel (FF/REW) motor drive	• "H" in REW mode.
17.	PF1	Deck B Reel (FF/REW) motor drive	• "H" in FF mode.
18.	PF2	Deck B Capstan motor drive	<ul style="list-style-type: none"> • "H" in Stop, FF, REW and MS search mode. • "L" in Play mode.
19.	PF3	Deck B Capstan motor speed control	• "H" in Normal speed mode (×1), and "L" in High speed mode (×2).
20. 21.	TEST V _{ss}	Test terminal GND terminal	• Connection to Ground.
22.	PG0	Deck A Trigger plunger control	<ul style="list-style-type: none"> • When mechanism mode is changed over, the level goes "L" for short time. <div style="display: flex; justify-content: space-around;"> <div> <p>Ex.) Stop→Play</p>  <p>150msec.</p> </div> <div> <p>Play→Stop</p>  <p>70msec.</p> </div> <div> <p>Play→MS</p>  <p>70msec.</p> </div> </div>
23.	PG1	Deck B Trigger plunger control	• Same as for Deck A PG0.
24.	PG2	Deck A Cue/Review plunger control	• "L" in Plunger ON mode, and "H" in Plunger OFF mode.
25.	PG3	Deck B Cue/Review plunger control	• Same as for Deck A PG2.
26.	PH0	Deck A Rec indication	<ul style="list-style-type: none"> • When Rec and Rec pause mode is "L" level, Rec LED light up. • "L" level at Approx. 1sec. after power on in Timer Rec.  <p>0.16sec.</p>
27.	PH1	Deck A Play indication	<ul style="list-style-type: none"> • When Play mode is "L" level, Play LED light up. • "L" and "H" are repeated at Approx. 80msec. cycle on receiving MS command. • "L" and "H" are repeated at Approx. 450msec. cycle on receiving Pause command. <div style="display: flex; justify-content: space-around;"> <div> <p>MS command</p>  <p>Approx. 80msec.</p> </div> <div> <p>Pause command</p>  <p>Approx. 450msec.</p> </div> </div>
28.	PH2	Deck B Play indication	<ul style="list-style-type: none"> • When Play mode is "L" level, Play LED light up. • "L" and "H" are repeated at Approx. 80msec. cycle on receiving MS command.  <p>Approx. 80msec.</p>
29.	PH3	Deck A Bias OSC control	• "L" in Rec mode only.

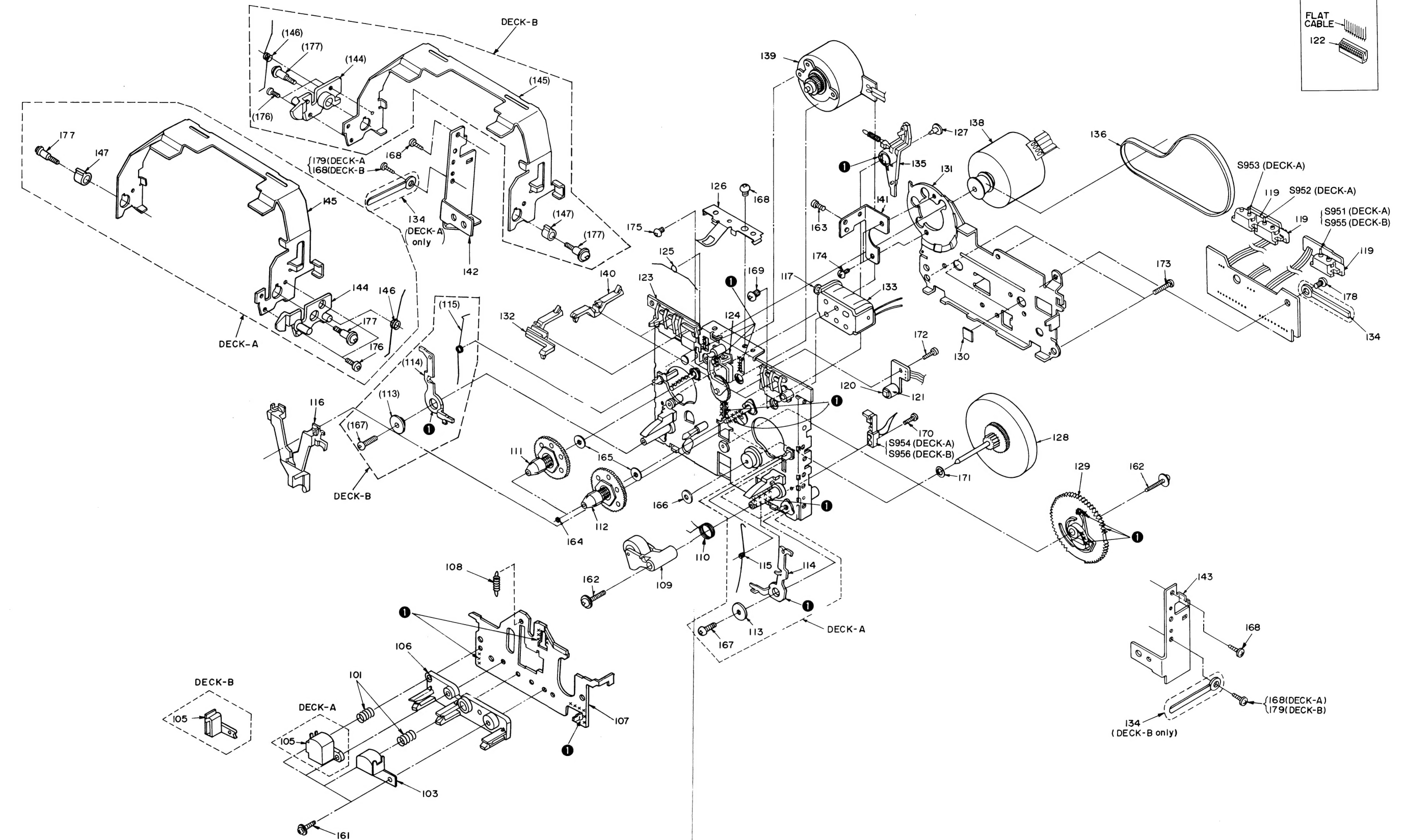
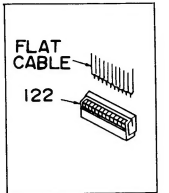
Terminal No.	Symbol	Name	Function/operation
30.	PI0	× 2 speed indication	<ul style="list-style-type: none"> The level goes “L” ⇄ “H” Approx. 0.15sec. after × 2 speed command. 
31.	PI1	Editing indication	<ul style="list-style-type: none"> The level goes “L” ⇄ “H” Approx. 0.15sec. after Editing command. 
32.	PI2	Deck A/Deck B P.B Amp. Select	Deck A <ul style="list-style-type: none"> “H” in Play and MS search. “L” in Stop, Pause, FF, REW, Rec pause and Rec play mode.
33.	PA0	Rec mute/Meter mute	<ul style="list-style-type: none"> In Rec pause mode, “H” with Auto rec mute button pressed; “L” with the button released. In Rec play mode, <ol style="list-style-type: none"> “H” with Auto rec mute button pressed, and Approx. 4sec. later the mode changes to Rec pause, then the level goes “L”. If Auto rec mute button is pressed for longer than Approx. 4sec., the mode changes to Rec pause and the level goes “L” on releasing the button. When Play button is pressed within Approx. 4sec. after pressing Auto rec Mute button, the mode changes to Rec Play and the level goes “L”. 
34.	PA1	Direct muting (DMT)	<ul style="list-style-type: none"> Stop→Play  Stop→Rec Pause  MS→Play 

Terminal No.	Symbol	Name	Function/operation
35.	PA2	Direct Operation	<ul style="list-style-type: none"> In changed over from Stop/FF/Rew/MS mode to Play mode, “L” in Approx. 360msec. period. Non output in Rec mode and × 2 Editing mode. 
36.	PA3	Remote control signal input terminal	<ul style="list-style-type: none"> “L” in non input.
37.	PB0	Scan input	Input switch stage reading <ul style="list-style-type: none"> Input of Deck A Auto rec mute, Deck A/B Rew, Synchro rec, MSP, Timer play and Deck B Reel pulse.
38.	PB1		Input switch stage reading <ul style="list-style-type: none"> Input of Deck A Pause, Deck A/B FF, × 2 sw, Deck A Rec inh. sw, Timer rec and Deck A Reel pulse.
39.	PB2		Input switch stage reading <ul style="list-style-type: none"> Input of Deck A Rec, Deck A/B Stop, Synchro start sw, (Deck A/B Pack sw) and Mode sw “○○”.
40.	PB3		Input switch stage reading <ul style="list-style-type: none"> Input of Deck A/B Play, Editing sw, Deck A/B Play leaf sw and Mode sw “→”.
41.	V _{DD}	Power supply terminal	<ul style="list-style-type: none"> Operative on Approx. 5 volts.

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

	<table><tr><td>AN6888</td><td>18 Pin</td></tr><tr><td>AN7016K</td><td>30 Pin</td></tr><tr><td>LM6402G-2114</td><td>42 Pin</td></tr><tr><td>TEA0665</td><td>28 Pin</td></tr></table>	AN6888	18 Pin	AN7016K	30 Pin	LM6402G-2114	42 Pin	TEA0665	28 Pin		<table><tr><td>M5218L</td><td>8 Pin</td></tr><tr><td>MN6634</td><td>9 Pin</td></tr><tr><td>BA6218</td><td>9 Pin</td></tr></table>	M5218L	8 Pin	MN6634	9 Pin	BA6218	9 Pin
AN6888	18 Pin																
AN7016K	30 Pin																
LM6402G-2114	42 Pin																
TEA0665	28 Pin																
M5218L	8 Pin																
MN6634	9 Pin																
BA6218	9 Pin																
	2SB1237QR, 2SD1330R, 2SD1858QR		2SJ40CD, 2SK381		2SA1115EF, 2SC2603EFG		DTC114ESTP										
	DTA114ESTP		SVD1SR35200A, 1SS133		MTZ10BT77, MTZ5R6B, MTZ5R1AT77, MA4033M												
	<table><tr><td>LN39GCPP</td><td>GREEN</td></tr><tr><td>LN89RCPP</td><td>RED</td></tr></table>	LN39GCPP	GREEN	LN89RCPP	RED												
LN39GCPP	GREEN																
LN89RCPP	RED																

MECHANICAL PARTS LOCATION



177	(176)	(177)	79 (168)	161(167)	177	176	168	164 (177)	162	165	175	166	167	168	169	163	174	170	172	171	162	173	168	179	178			
147	(146)	(144)	146	134	142	132	(145)	(147)	140	139	141	133	135	131	138	136	(134)	143	134									
(105)	105	116	101 (113)	106(114)	103 (115)	108	111	112	107	123	125	109	110	126	124	113	115	117	114	120	121	127	130	128	129	119	122	119

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
(DECK A)				(DECK B)			
CASSETTE DECK				CASSETTE DECK			
101	SMQA1001	016 726 0827 7	SPRING	101	SMQA1001	016 726 0827 7	SPRING
103	SJH99	001 270 1700 1	MAGNETIC HEAD	103	SMQA1184	001 270 1867 9	MAGNETIC HEAD
105	SJH100	001 270 1699 7	MAGNETIC HEAD	105	SMQA1186	016 632 1919 1	TAPE GUIDE
106	SMQA1002	016 641 0245 3	SPACER	106	SMQA1002	016 641 0245 3	SPACER
107	SMQA1003	016 630 1752 6	PLATE	107	SMQA1003	016 630 1752 6	PLATE
108	SMQA1004	016 726 0826 8	SPRING	108	SMQA1004	016 726 0826 8	SPRING
109	SMQA1005	016 740 0114 1	ROLLER	109	SMQA1005	016 740 0114 1	ROLLER
110	SMQA1006	016 726 0825 9	SPRING	110	SMQA1006	016 726 0825 9	SPRING
111	SMQA1013	016 913 0004 5	REEL	111	SMQA1013	016 913 0004 5	REEL
112	SMQA1026	016 913 0003 6	REEL	112	SMQA1026	016 913 0003 6	REEL
113	SMQA1009	016 643 0966 7	SPACER	113	SMQA1009	016 643 0966 7	SPACER
115	SMQA1120	016 726 0933 6	COIL SPRING	114	SMQA1011	016 717 0254 3	ARM
116	SMQA1056	016 718 3358 9	LEVER	115	SMQA1012	016 726 0835 7	SPRING
117	SMQA1181	003 455 0411 8	PLUNGER	116	SMQA1056	016 718 3358 9	LEVER
119	SMQA1021	016 643 0965 8	SPACER	117	SMQA1181	003 455 0411 8	PLUNGER
120	SMQA1041	001 035 0392 0	PHOTO ELECTRIC TRANSDUCER	119	SMQA1021	016 643 0965 8	SPACER
121	SMQA1022	016 643 0964 9	SPACER	120	SMQA1041	001 035 0392 0	PHOTO ELECTRIC TRANSDUCER
122	SJT30440LX-V	003 410 6076 8	LUG TERMINAL	121	SMQA1022	016 643 0964 9	SPACER
122	SJT30640LX-V	003 410 6149 8	CONNECTOR	122	SJT30440LX-V	003 410 6076 8	LUG TERMINAL <4P>
122	SJT30740LX-V	003 410 5990 7	LUG TERMINAL	122	SJT30640LX-V	003 410 6149 8	CONNECTOR <6P>
122	SJT31040LX-V	003 410 6112 1	LUG TERMINAL	122	SJT31040LX-V	003 410 6112 1	LUG TERMINAL <10P>
123	SMQA1122	016 630 1806 9	CHASSIS	123	SMQA1122	016 630 1806 9	CHASSIS
124	SMQA1061	016 742 0039 5	IDLER PULLEY	124	SMQA1061	016 742 0039 5	IDLER PULLEY
125	SMQA1024	016 726 0834 8	SPRING	125	SMQA1024	016 726 0834 8	SPRING
126	SMQA1062	016 726 0881 1	COIL SPRING	126	SMQA1062	016 726 0881 1	COIL SPRING
127	SMQA1029	016 640 0459 6	CAP	127	SMQA1029	016 640 0459 6	CAP
128	SMQA1066	016 756 0085 3	WHEEL	128	SMQA1066	016 756 0085 3	WHEEL
129	SMQA1123	016 745 0226 9	GEAR	129	SMQA1123	016 745 0226 9	GEAR
130	SMQA1097	016 643 1004 4	SPACER	130	SMQA1097	016 643 1004 4	SPACER
131	SMQA1068	016 650 5303 9	BRACKET	131	SMQA1068	016 650 5303 9	BRACKET
132	SMQA1069	016 718 3358 9	LEVER	133	SMQA1070	003 454 0638 6	PLUNGER
133	SMQA1070	003 454 0638 6	PLUNGER	134	SMQA1071	016 643 0969 0	WASHER
134	SMQA1071	016 643 0969 0	WASHER	135	SMQA1028	016 717 0252 5	ARM
135	SMQA1028	016 717 0252 5	ARM	136	SMQA1038	016 752 0126 1	FLAT BELT
136	SMQA1038	016 752 0126 1	FLAT BELT	138	SMQA1125	002 310 2495 4	DC MOTOR
138	SMQA1125	002 310 2495 4	DC MOTOR	139	SMQA1036	002 310 2270 9	DC MOTOR
139	SMQA1036	002 310 2270 9	DC MOTOR	140	SMQA1025	016 718 3349 0	LEVER
140	SMQA1025	016 718 3349 0	LEVER	141	SMQA1126	016 650 5351 1	ANGLE
141	SMQA1126	016 650 5351 1	ANGLE	142	SMQA1127	016 632 1867 6	ANGLE
142	SMQA1127	016 632 1867 6	ANGLE	143	SMQA1128	016 632 1865 8	ANGLE
143	SMQA1128	016 632 1865 8	ANGLE	144	SMQA1129	016 712 0357 2	ROD
144	SMQA1130	016 712 0356 3	ROD	145	SMQA1131	016 718 3378 5	LEVER
145	SMQA1132	016 718 3377 6	LEVER	146	SMQA1133	016 726 0935 4	COIL SPRING
146	SMQA1134	016 726 0934 5	COIL SPRING	147	SMQA1135	016 643 1021 3	SPACER
147	SMQA1135	016 643 1021 3	SPACER	SCREWS, WASHERS & NUTS			
SCREWS, WASHERS & NUTS				161	XSN2+8	005 500 1301 1	SMALL SCREW
161	XSN2+8	005 500 1301 1	SMALL SCREW	162	XTN2+13C	005 501 3505 8	TAPPING SCREW
162	XTN2+13C	005 501 3505 8	TAPPING SCREW	163	XTS3+6B	005 501 0697 7	SCREW
163	XTS3+6B	005 501 0697 7	SCREW	164	SMQA1010	016 765 0056 7	REEL TABLE
164	SMQA1010	016 765 0056 7	REEL TABLE	165	SMQA1014	016 641 0246 2	SLIDER
165	SMQA1014	016 641 0246 2	SLIDER	166	SMQA1007	016 862 1041 8	INDICATION PLATE LABEL
166	SMQA1007	016 862 1041 8	INDICATION PLATE LABEL	167	XTN3+10	005 501 4763 8	TAPPING SCREW
167	XTN3+10	005 501 4763 8	TAPPING SCREW	168	XTN3+4F	005 501 0412 4	TAPPING SCREW
168	XTN3+4F	005 501 0412 4	TAPPING SCREW	169	XYN26+C3	005 503 0738 5	SCREW
169	XYN26+C3	005 503 0738 5	SCREW	170	XTN2+7C	005 501 3506 7	TAPPING SCREW
170	XTN2+7C	005 501 3506 7	TAPPING SCREW	171	SMQA1031	005 513 4185 4	WASHER
171	SMQA1031	005 513 4185 4	WASHER	172	XTN26+6B	005 501 0314 5	SCREW
172	XTN26+6B	005 501 0314 5	SCREW	173	XTN26+8	005 501 3998 5	TAPPING SCREW
173	XTN26+8	005 501 3998 5	TAPPING SCREW	174	XYN26+C45	005 503 0928 1	SCREW
174	XYN26+C45	005 503 0928 1	SCREW	175	XYN26+C6	005 503 0554 1	SMALL SCREW
175	XYN26+C6	005 503 0554 1	SMALL SCREW	176	XYN26+4B	005 503 1330 1	SCREW WITH WASHER
176	XYN26+4B	005 503 1330 1	SCREW WITH WASHER	177	SMQA1136	005 500 7943 9	SCREW
177	SMQA1136	005 500 7943 9	SCREW	178	XTN3+5F	005 501 3502 1	TAPPING SCREW
178	XTN3+5F	005 501 3502 1	TAPPING SCREW	179	XTN3+6B	005 501 0432 0	SCREW

RESISTORS & CAPACITORS

Notes: * Important safety notice:
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value
ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value
				47x10 ¹ (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity
ECEA	50		M	330
Type	Voltage	Peculiarity		Value
				(33x10 ⁰ microfarad)

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : $\pm 5\%$
ERG : Metal Oxide	12 : 1/2W	F : $\pm 1\%$
ERX : Metal Film	25 : 1/4W	G : $\pm 2\%$
ERQ : Fuse Type Metal	1A : 1W	K : $\pm 10\%$
ERD Δ L : Carbon (chip)	18 : 1/8W	
ERD Δ K : Metal Film (chip)	S2 : 1/4W	
ERC : Solid	S1 : 1/2W	
	2F : 1/4W	
	50 : 1/2W	
	2A : 2W	

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V	C : $\pm 0.25pF$
ECCD : Ceramic	1A : 10V	J : $\pm 5\%$
ECKD : Ceramic	1C : 16V	K : $\pm 10\%$
ECQM : Polyester	1E : 25V	Z : $+80\%$
	1H : 50V	-20%
ECQP : Polypropylene	1V : 35V	P : $+100\%$
	50 : 50V	-0%
ECG : Ceramic	05 : 50V	M : $\pm 20\%$
ECEADONN : Non Polar Electrolytic	2H : 500V	
QCU Δ : Ceramic (Chip Type)	2A : 100V	D : $\pm 0.5pF$
ECUX : Ceramic (Chip Type)	1 : 100V	G : $\pm 2\%$
ECF : Semiconductor	KC : 400V AC (UL)	
	KC : 125VAC (UL)	
	1J : 63V	
EECW : Liquid electrolyte double layer capacitor		

Ref. No.	
R949	ER
R950	ER
R951	ER
R953	ER
R954	ER
R955, R956	ER
R957	ER
R958	ER
R959	ER
R960	ER
R961	ER
R962	ER
R963, R964	ER
R965, R966	ER
R967	ER
R968, R969	ER
R970, R975	ER
R976	ER
R977	ER
R978	ER
R979	ER
CAPACITORS	
C1, C2	EQ
C3, C4	EQ
C5, C6	EQ
C7, C8	EQ
C9, C10	EQ
C11, C12	EQ
C13, C14	EQ
C15, C16	EQ
C51, C52	EQ

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
RESISTORS			R101, R102	ERDS2T J223	001 152 2432 7	R605	ERDS2T J102	001 152 2346 4
R3, R4	ERDS2T J101	001 152 2421 0	R103, R104	ERD25T J123	001 152 2077 6	R606	ERD2FCG270	001 152 2725 7
R5, R6	ERDS2T J274	001 152 2437 2	R105, R106	ERDS2T J272	001 152 2354 4	R607	ERD25F J102	001 152 0215 2
R7, R8	ERDS2T J332	001 152 2357 1	R107	ERDS2T J272	001 152 2354 4	R610	ERDS2T J391	001 152 2360 6
R9	ERD25F J820	001 152 0353 3	R108	ERDS2T J101	001 152 2421 0	R702	ERDS2T J122	001 152 2423 8
R10	ERDS2T J820	001 152 2453 2	R109	ERDS2T J223	001 152 2432 7	R703, R704	ERDS2T J821	001 152 2454 1
R11, R12	ERDS2T J302		R110	ERDS2T J393	001 152 2440 7	R705, R706	ERDS2T J122	001 152 2423 8
R13, R14	ERDS2T J122	001 152 2423 8	R111	ERDS2T J472	001 152 2362 4	R707	ERDS2T J122	001 152 2423 8
R15, R16	ERDS2T J302		R112	ERDS2T J332	001 152 2357 1	R901, R902	ERDS2T J103	001 152 2347 3
R17, R18	ERDS2T J155	001 152 2766 8	R113, R114	ERDS2T J333	001 152 2358 0	R903	ERD25F J103	001 152 0216 1
R19	ERD25T J155	001 152 0451 2	R120	ERDS2T J154	001 152 2427 4	R904	ERD25F J562	001 152 0328 4
R20	ERDS2T J155	001 152 2766 8	R121	ERDS2T J473	001 152 2363 3	R905	ERDS2T J471	001 152 2361 5
R21, R22	ERDS2T J183	001 152 2429 2	R301	ERD25F J180	001 152 0208 1	R906	ERD25T J223	001 152 1863 2
R23	ERDS2T J472	001 152 2362 4	R302, R303	ERDS2T J223	001 152 2432 7	R907, R908	ERG3SJ680P	001 151 7263 1
R24	ERDS2T J103	001 152 2347 3	R305, R306	ERDS2T J100	001 152 2420 1	R909	ERDS2T J391	001 152 2360 6
R26	ERD25F J472	001 152 0311 3	R307	ERD2FCG100	001 152 0185 1	R910	ERD25F J682	001 152 0343 5
R27	ERDS2T J154	001 152 2427 4	R308	ERDS2T J331	001 152 2356 2	R911	ERDS2T J273	001 152 2436 3
R53, R54	ERDS2T J123	001 152 2424 7	R309	ERDS2T J821	001 152 2454 1	R912	ERDS2T J223	001 152 2432 7
R55, R56	ERDS2T J223	001 152 2432 7	R310	ERDS2T J471	001 152 2361 5	R913	ERDS2T J103	001 152 2347 3
R57, R58	ERDS2T J472	001 152 2362 4	R311	ERDS2T J561	001 152 2364 2	R914	ERDS2T J821	001 152 2454 1
R59	ERD25F J821	001 152 0354 2	R312	ERD25F J151	001 152 0236 7	R915	ERDS2T J103	001 152 2347 3
R60	ERDS2T J821	001 152 2454 1	R313	ERDS2T J562	001 152 2445 2	R916	ERDS2T J821	001 152 2454 1
R61, R62	ERDS2T J100	001 152 2420 1	R314	ERDS2T J473	001 152 2363 3	R917	ERDS2T J103	001 152 2347 3
R63, R64	ERDS2T J182	001 152 2352 6	R315, R316	ERDS2T J103	001 152 2347 3	R918	ERDS2T J222	001 152 2353 5
R67, R68	ERDS2T J272	001 152 2354 4	R317, R318	ERDS2T J103	001 152 2347 3	R919	ERG2SJ330	001 151 4037 1
R70	ERDS2T J223	001 152 2432 7	R319, R320	ERDS2T J563	001 152 2446 1	R920	ERDS2T J272	001 152 2354 4
R71, R72	ERDS2T J472	001 152 2362 4	R401, R402	ERDS2T J101	001 152 2421 0	R921	ERD25T J105	001 152 0446 9
R73	ERD25F J682	001 152 0343 5	R403, R404	ERDS2T J272	001 152 2354 4	R931, R932	ERDS2T J103	001 152 2347 3
R74, R75	ERDS2T J103	001 152 2347 3	R405, R406	ERDS2T J472	001 152 2362 4	R933	ERDS2T J103	001 152 2347 3
R76, R77	ERDS2T J472	001 152 2362 4	R407, R408	ERD25F J471	001 152 0310 4	R934	ERDS2T J562	001 152 2445 2
R78	ERDS2T J472	001 152 2362 4	R409, R410	ERDS2T J332	001 152 2357 1	R935	ERDS2T J471	001 152 2361 5
R79, R80	ERDS2T J103	001 152 2347 3	R411, R412	ERDS2T J102	001 152 2346 4	R936	ERDS2T J223	001 152 2432 7
R81	ERDS2T J103	001 152 2347 3	R413, R414	ERDS2T J512	001 152 2596 8	R937, R938	ERG3SJ680P	001 151 7263 1
R82	ERDS2T J473	001 152 2363 3	R415, R416	ERDS2T J222	001 152 2353 5	R939	ERD25F J391	001 152 0299 2
R83	ERDS2T J222	001 152 2353 5	R417, R418	ERDS2T J683	001 152 2450 5	R940	ERDS2T J682	001 152 2365 1
R84	ERDS2T J272	001 152 2354 4	R419, R420	ERDS2T J333	001 152 2358 0	R941	ERDS2T J273	001 152 2436 3
R86	ERD25F J103	001 152 0216 1	R421, R422	ERDS2T J823	001 152 2456 9	R942	ERDS2T J223	001 152 2432 7
R87	ERDS2T J103	001 152 2347 3	R423, R424	ERDS2T J823	001 152 2456 9	R943	ERDS2T J103	001 152 2347 3
R88	ERDS2T J332	001 152 2357 1	R425, R426	ERDS2T J103	001 152 2347 3	R944	ERDS2T J821	001 152 2454 1
R89, R90	ERG2SJ560	001 151 4932 9	R427, R428	ERD25F J182	001 152 0248 3	R945	ERDS2T J103	001 152 2347 3
R91, R92	ERDS2T J223	001 152 2432 7	R602	ERDS2T J471	001 152 2361 5	R946	ERDS2T J821	001 152 2454 1
R93	ERDS2T J102	001 152 2346 4	R603	ERD2FCG100	001 152 0185 1	R947	ERDS2T J103	001 152 2347 3
			R604	ERDS2T J471	001 152 2361 5	R948	ERDS2T J222	001 152 2353 5

Tolerance

J : ±5%

F : ±1%

G : ±2%

K : ±10%

tolerance

±0.25pF

±5%

±10%

+80%

-20%

+100%

-0%

±20%

±0.5pF

±2%

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
R949	ERG2SJ330	001 151 4037 1	C53, C54	ECKD1H471KB	001 103 1551 0	C409, C410	ECQM1H472JZ	001 106 0801 0
R950	ERDS2TJ272	001 152 2354 4	C55, C56	ECCF1H121J	001 103 0378 9	C411, C412	ECQM1H472JZ	001 106 0801 0
R951	ERD25TJ105	001 152 0446 9	C57, C58	ECCF1H121J	001 103 0378 9	C413, C414	ECEA1CU100	001 120 2905 3
R953	ERDS2TJ103	001 152 2347 3	C59, C60	ECEA1HUR47	001 120 3249 8	C415, C416	ECEA1CU100	001 120 2905 3
R954	ERDS2TJ472	001 152 2362 4	C61, C62	ECQM1H392JZ	001 106 0790 6	C417, C418	ECQM1H473JZ	001 106 0810 9
R955, R956	ERDS2TJ223	001 152 2432 7	C63, C64	ECQM1H223JZ	001 106 0739 9	C419, C420	ECQM1H473JZ	001 106 0810 9
R957	ERDS2TJ102	001 152 2346 4	C65, C66	ECQM1H103JZ	001 106 0667 8	C421, C422	ECEA1HUR22	001 120 3247 0
R958	ERDS2TJ222	001 152 2353 5	C67, C68	ECQM1H333JZ	001 106 0779 1	C423, C424	ECEA1HUR22	001 120 3247 0
R959	ERDS2TJ332	001 152 2357 1	C69, C70	ECQM1H153JZ	001 106 0704 0	C425, C426	ECEA50ZR68	001 120 1290 5
R960	ERDS2TJ103	001 152 2347 3	C81, C82	ECCC1H221K	001 103 0508 7	C427, C428	ECEA50ZR68	001 120 1290 5
R961	ERDS2TJ683	001 152 2450 5	C83, C84	ECEA1EU4R7	001 120 2840 3	C429, C430	ECEA1EU4R7	001 120 2840 3
R962	ERDS2TJ105	001 152 2422 9	C89	ECEA1CU221	001 120 2833 2	C431, C432	ECEA1EU4R7	001 120 2840 3
R963, R964	ERDS2TJ473	001 152 2363 3	C90	ECEA0JU222	001 120 3161 5	C433, C434	ECEA1EU4R7	001 120 2840 3
R965, R966	ERDS2TJ473	001 152 2363 3	C91, C92	ECEA1HU2R2	001 120 3253 2	C601	△ ECKDKC103PF2	001 103 3734 7
R967	ERDS2TJ472	001 152 2362 4	C99, C100	ECKD1H103ZF5		C602	ECEA1CU472	001 120 0288 3
R968, R969	ERDS2TJ103	001 152 2347 3	C101	ECQM1H103JZ	001 106 0667 8	C603	ECEA1CU222	001 120 3074 3
R970, R975	ERDS2TJ332	001 152 2357 1	C102	ECEA1CU100	001 120 2905 3	C604	△ ECKD1H223PF	001 103 1510 9
R976	ERDS2TJ103	001 152 2347 3	C103	ECCF1H121J	001 103 0378 9	C605, C606	ECEA1CU221	001 120 2833 2
R977	ERD25TJ223	001 152 1863 2	C104	ECEA1HU010	001 120 2842 1	C607	ECEA1CU222	001 120 3074 3
R978	ERDS2TJ103	001 152 2347 3	C120	ECEA1HU2R2	001 120 3253 2	C608, C610	△ ECKD1H223PF	001 103 1510 9
R979	ERDS2TJ472	001 152 2362 4	C121	△ ECKD1H223PF	001 103 1510 9	C611	△ ECKD1H223PF	001 103 1510 9
CAPACITORS			C301	ECQP1153JZW	001 106 3505 3	C612	ECEA0JU101	001 120 2829 8
C1, C2	ECKD1H391KB	001 103 1544 9	C302	ECQM1H392JZ	001 106 0790 6	C613	ECEA1CU221	001 120 2833 2
C3, C4	ECKD1H331KB	001 103 1523 4	C303, C304	ECQM1H472JZ	001 106 0801 0	C614	△ ECKD1H223PF	001 103 1510 9
C5, C6	ECKD1H122KB	001 103 1459 5	C305	ECQM1H472JZ	001 106 0801 0	C617	ECEA1CU100	001 120 2905 3
C7, C8	ECKD1H391KB	001 103 1544 9	C306, C307	ECEA1EU4R7	001 120 2840 3	C901, C902	ECEA1CN100S	001 120 0233 8
C9, C10	ECEA0JU101	001 120 2829 8	C308	ECKD1H103ZF5		C903	ECEA1EU4R7	001 120 2840 3
C11, C12	ECQM1H123JZ	001 106 0688 8	C401, C402	ECKD1H152KB	001 103 1467 5	C904	ECEA1HU2R2	001 120 3253 2
C13, C14	ECEA1HUR47	001 120 3249 8	C403, C404	ECKD1H122KB	001 103 1459 5	C905	ECCD1H220KC	001 103 0494 6
C15, C16	ECCD1H050CC	001 103 0251 3	C405, C406	ECCF1H121J	001 103 0378 9	C906	ECCD1H390J	001 103 0587 2
C51, C52	ECEA1HU010	001 120 2842 1	C407, C408	ECQM1H103JZ	001 106 0667 8	C907	ECKD1H103ZF5	

Part Code

001 152 2346 4

001 152 2725 7

001 152 0215 2

001 152 2360 6

001 152 2423 8

001 152 2454 1

001 152 2423 8

001 152 2423 8

001 152 2347 3

001 152 0216 1

001 152 0328 4

001 152 2361 5

001 152 1863 2

001 151 7263 1

001 152 2360 6

001 152 0343 5

001 152 2436 3

001 152 2432 7

001 152 2347 3

001 152 2454 1

001 152 2347 3

001 152 2454 1

001 152 2347 3

001 152 2363 5

001 151 4037 1

001 152 2354 4

001 152 0446 9

001 152 2347 3

001 152 2347 3

001 152 2445 2

001 152 2361 5

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001 152 2365 1

001 152 2436 3

001 152 2432 7

001 152 2347 3

001 152 2454 1

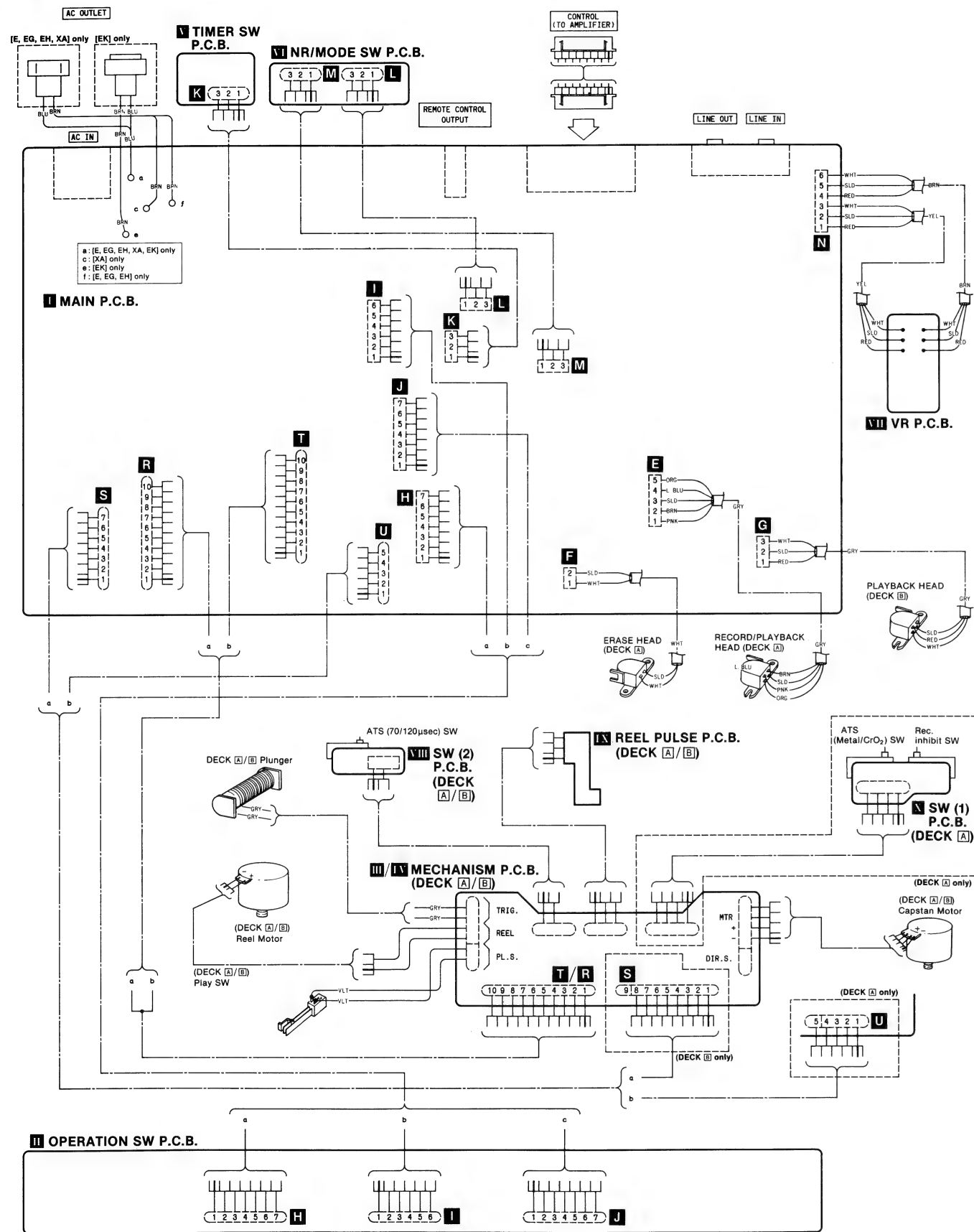
001 152 2347 3

001 152 2454 1

001 152 2347 3

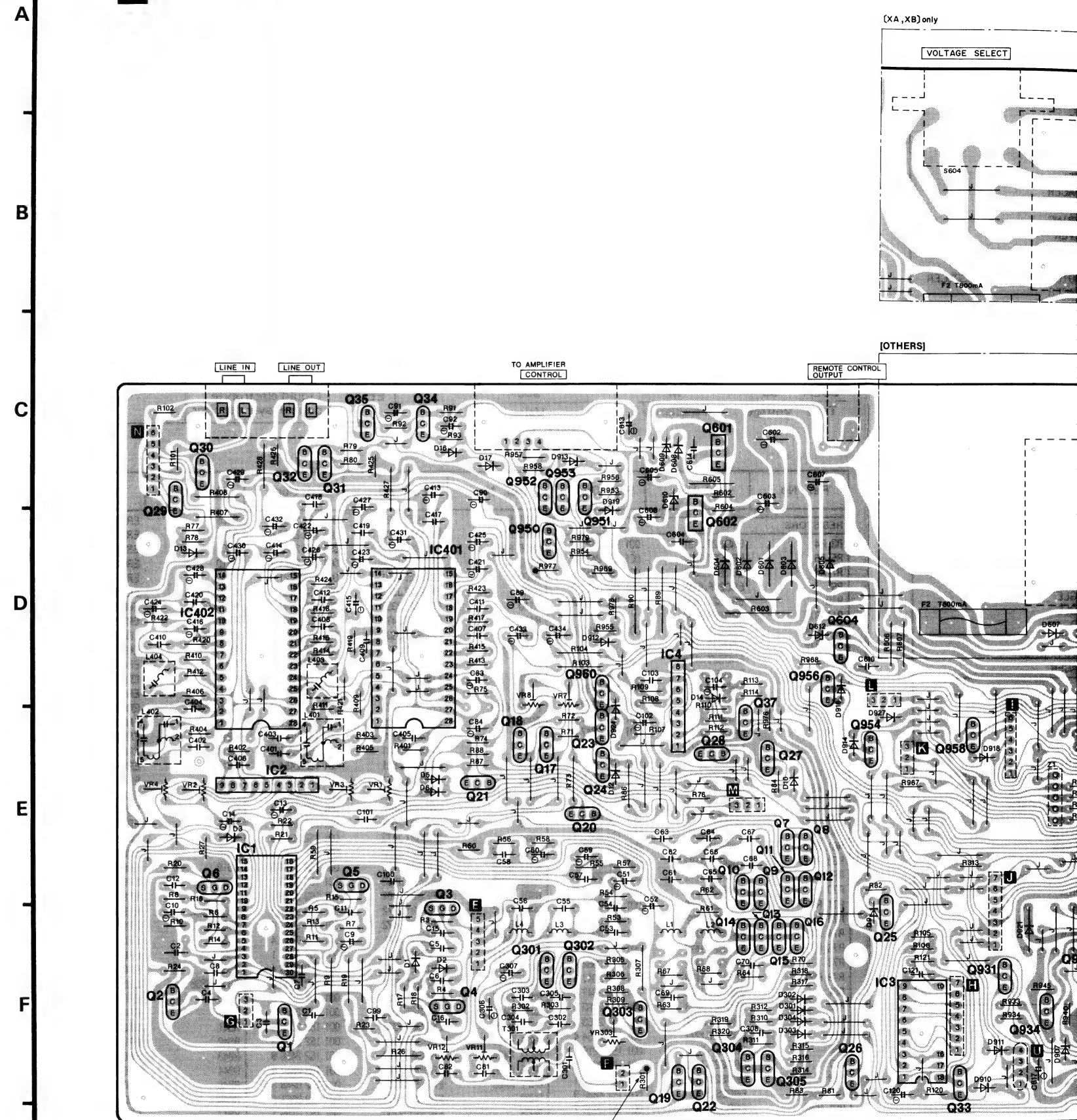
001 152 2353 5

WIRING CONNECTION DIAGRAM

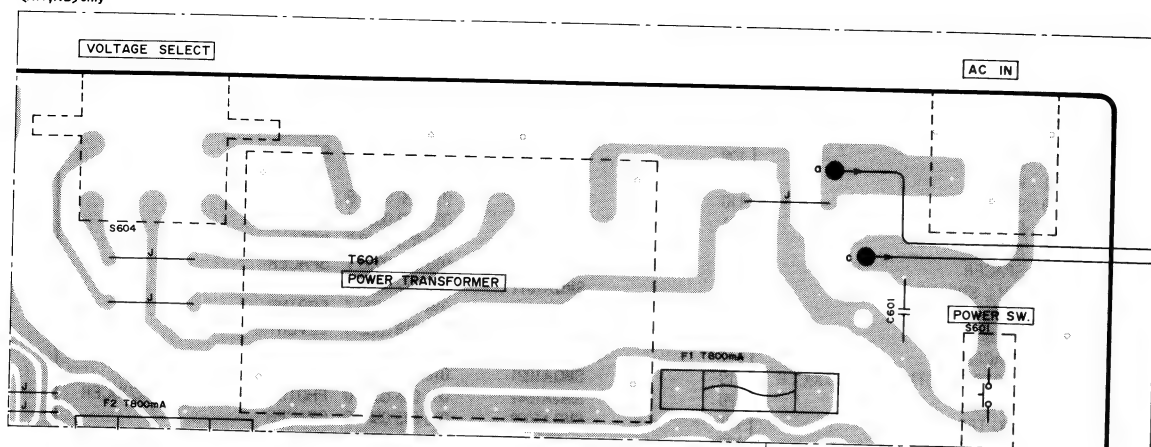


PRINTED CIRCUIT BOARDS

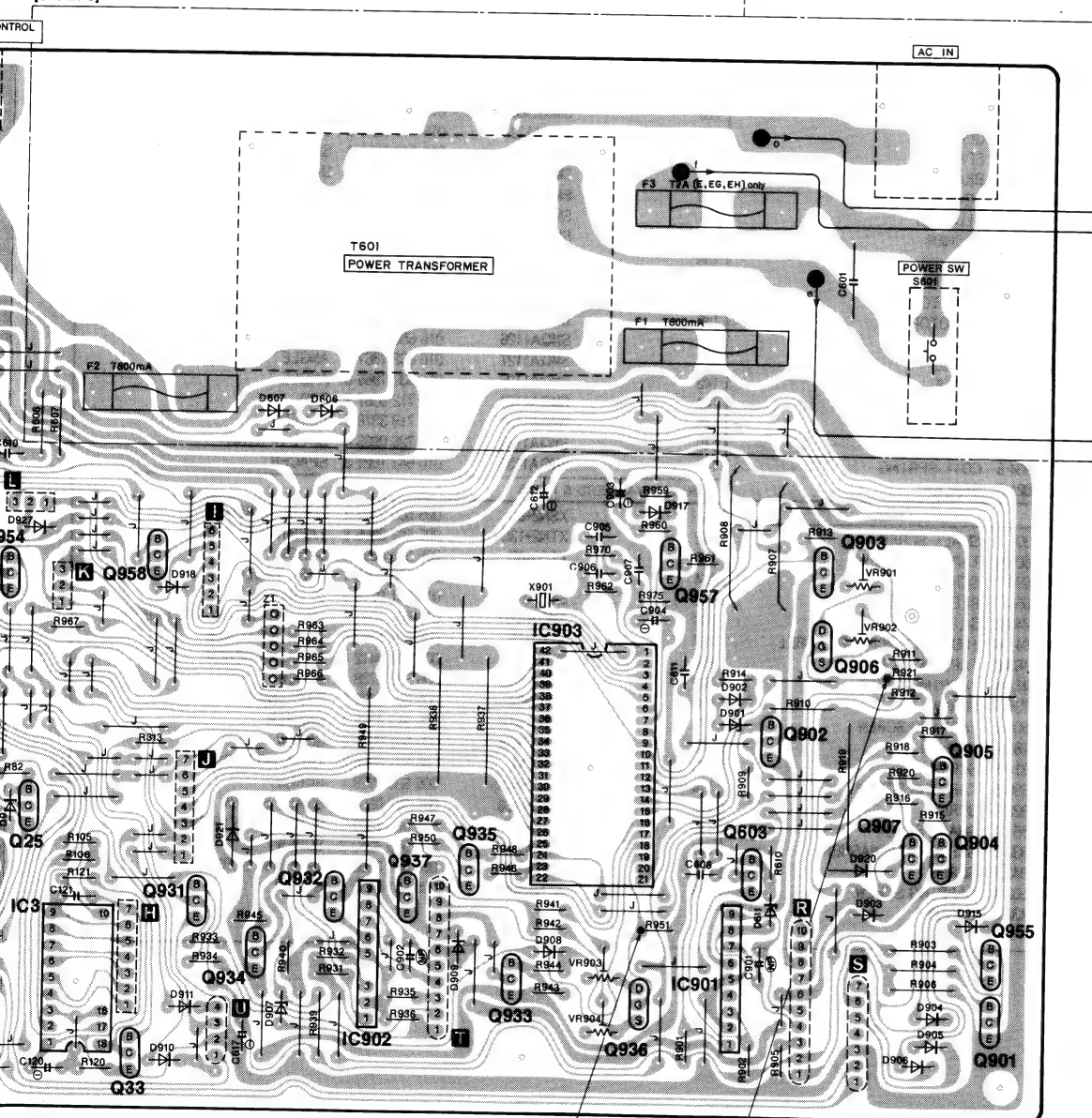
1 MAIN P.C.B.



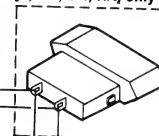
[XA, XB] only



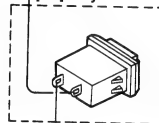
[OTHERS]



[E, EG, EH, XA] only

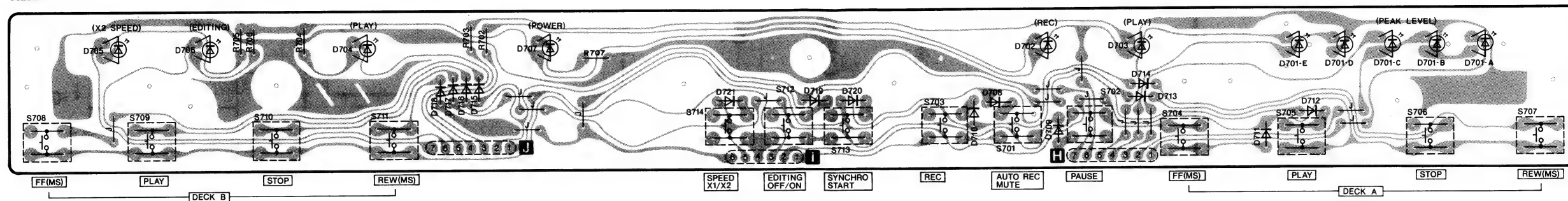


[EK] only

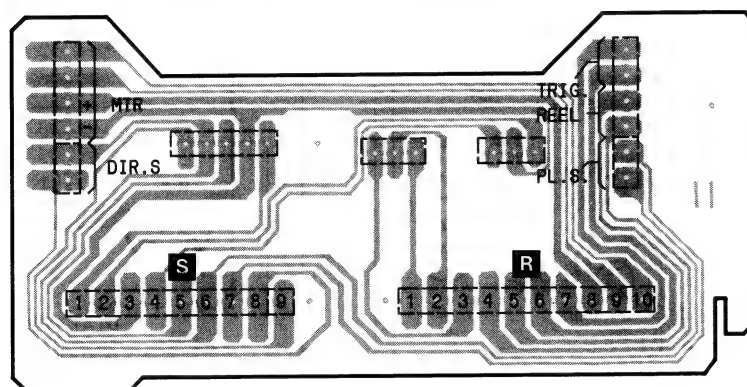
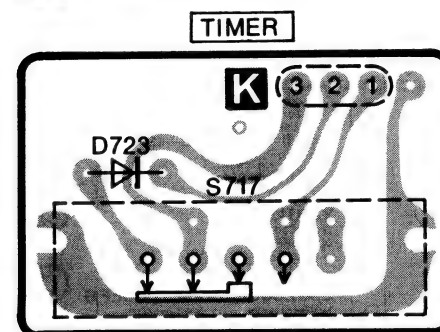
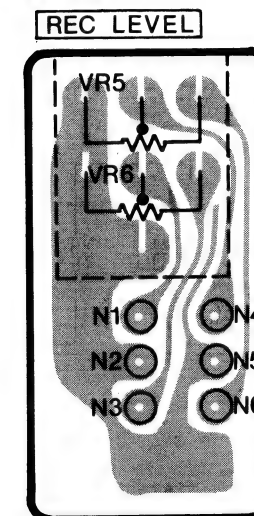


TP4 HIGH SPEED ADJ. TP3 TEST POINT

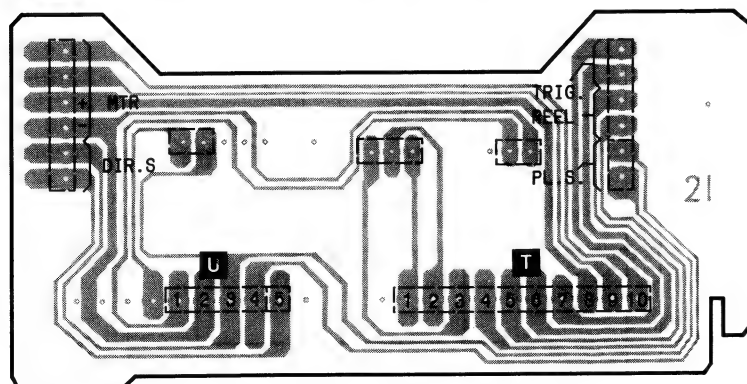
II OPERATION SW P.C.B.



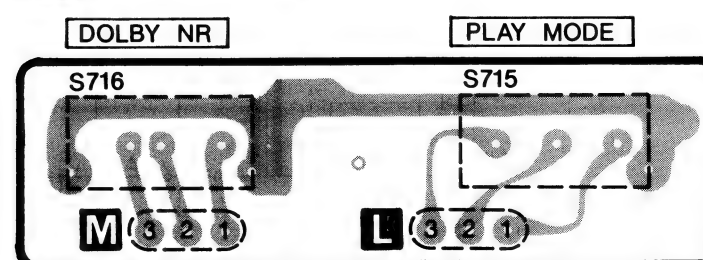
III MECHANISM P.C.B. (DECK A)

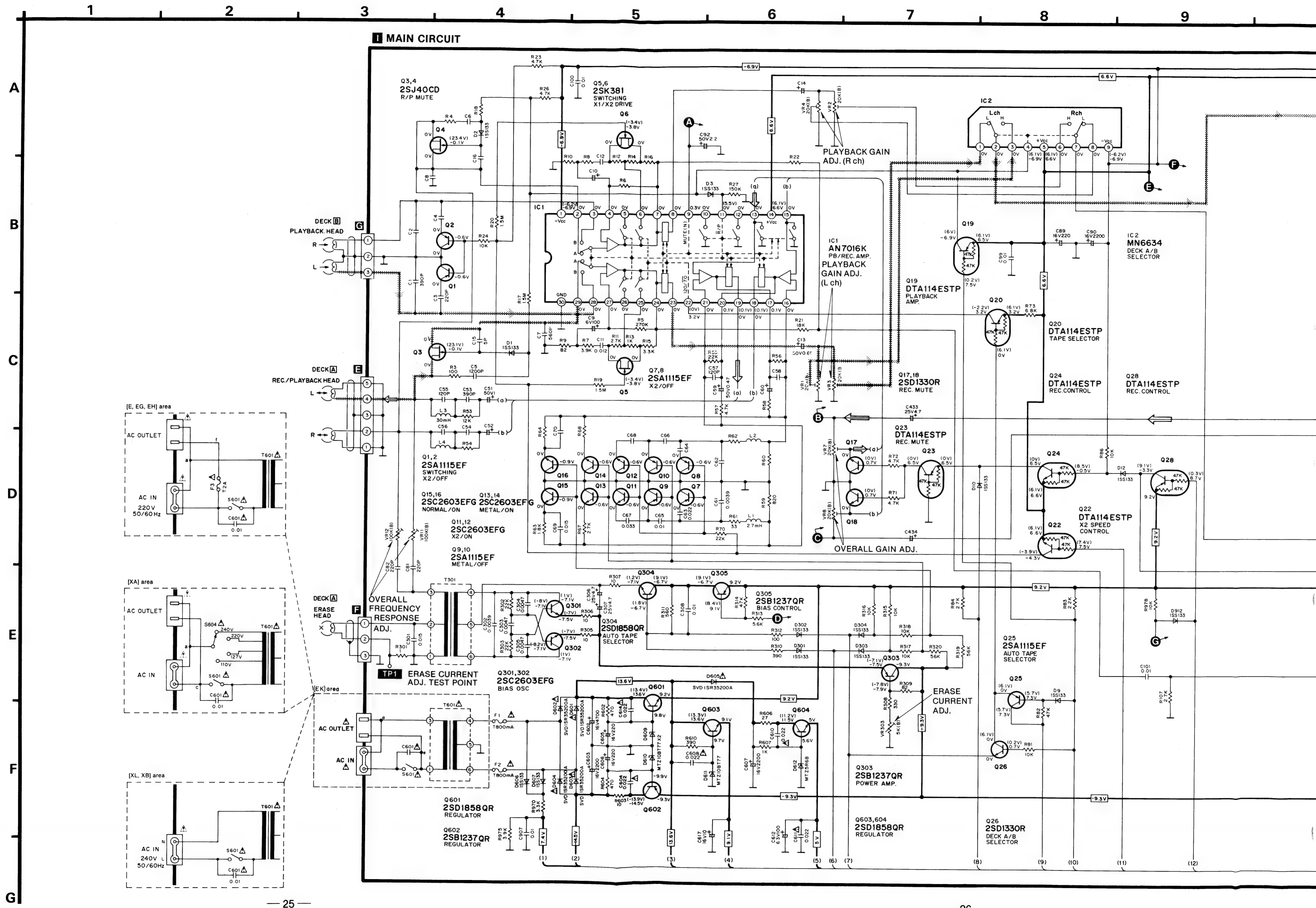
**V** TIMER SW P.C.B.**VII VR P.C.B.**

IV MECHANISM P.C.B. (DECK B)



VI NR/MODE SW P.C.B.







SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- S601 : Power switch in "off" position.
- S603 : Voltage selector in "240V" position (XA, XB) area only).
- S701 : DECK A Auto rec. mute switch in "off" position.
- S702 : DECK A Pause switch in "off" position.
- S703 : DECK A Rec. switch in "off" position.
- S704 : DECK A FF (MS) switch in "off" position.
- S705 : DECK A Play switch in "off" position.
- S706 : DECK A Stop switch in "off" position.
- S707 : DECK A Rew (MS) switch in "off" position.
- S708 : DECK B FF (MS) switch in "off" position.
- S709 : DECK B Play switch in "off" position.
- S710 : DECK B Stop switch in "off" position.
- S711 : DECK B Rew (MS) switch in "off" position.
- S712 : Editing switch in "off" position.
- S713 : Synchro start switch in "off" position.
- S714 : Editing tape speed selector in "X1" position.
- S715 : Playback mode selector in "→" position.
- S716 : Dolby NR switch in "off" position.
- S717 : Timer stand-by switch in "off" position.
- S951 : DECK A ATS (70/120μs) switch in "off" position.
- S952 : DECK A ATS (Metal CrO₂) switch in "off" position.
- S953 : DECK A Rec. inhibit switch in "off" position.
- S954 : DECK A Play switch in "off" position.
- S955 : DECK B ATS (70/120μs) switch in "off" position.
- S956 : DECK B Play switch in "off" position.

- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
().....Voltage values at record mode.
For measurement us EVM.
- Important safety notice
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (□) indicates B (bias).
- (→) indicates the flow of the playback signal.
- (→) indicates the flow of the record signal.

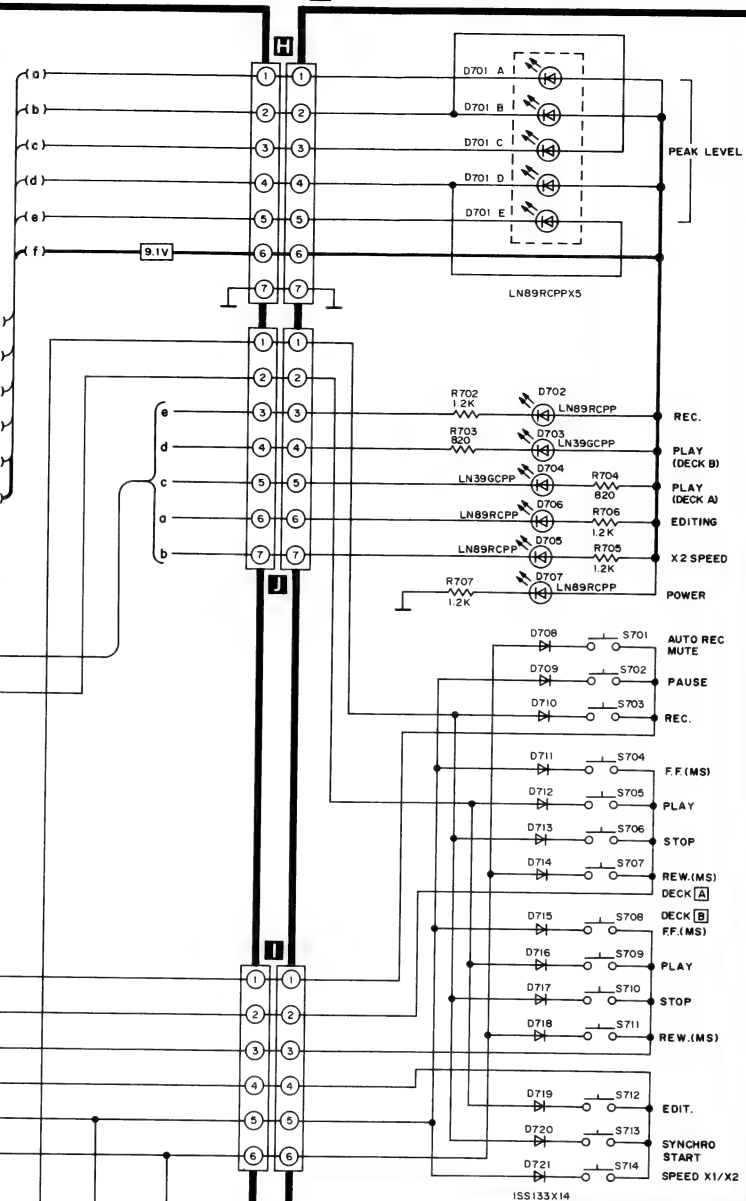
* Caution!

- IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.
- * Cover the parts boxes made of plastics with aluminum foil.
- * Ground the soldering iron.
- * Put a conductive mat on the work table.
- * Do not touch the legs of IC or LSI with the fingers directly.

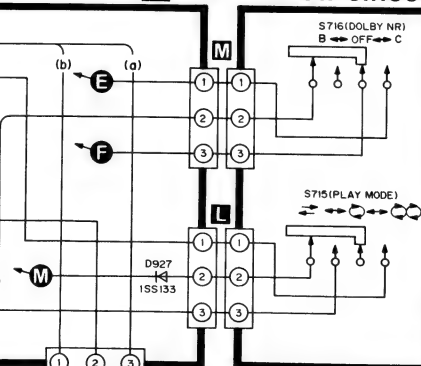
SPECIFICATIONS * Input level control...MAX

Playback S/N ratio * Test tape...QZZCFM	Greater than 45dB
Overall distortion * Test tape ...QZZCRA for Normal	Normal... Less than 4.0%
Overall S/N ratio * Test tape...QZZCRX	Greater than 45dB

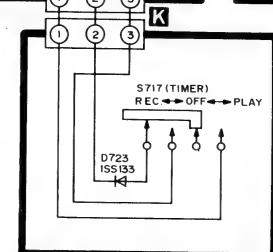
III OPERATION SW CIRCUIT



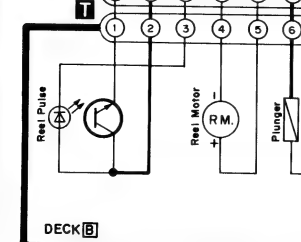
VI NR/MODE SW CIRCUIT



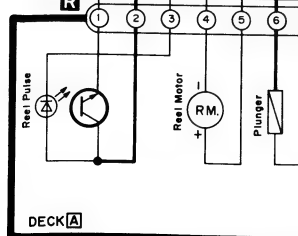
V TIMER SW CIRCUIT



IV MECHANISM CIRCUIT



III MECHANISM CIRCUIT



REPLACEMENT PARTS LIST

Notes: * Important safety notice:
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

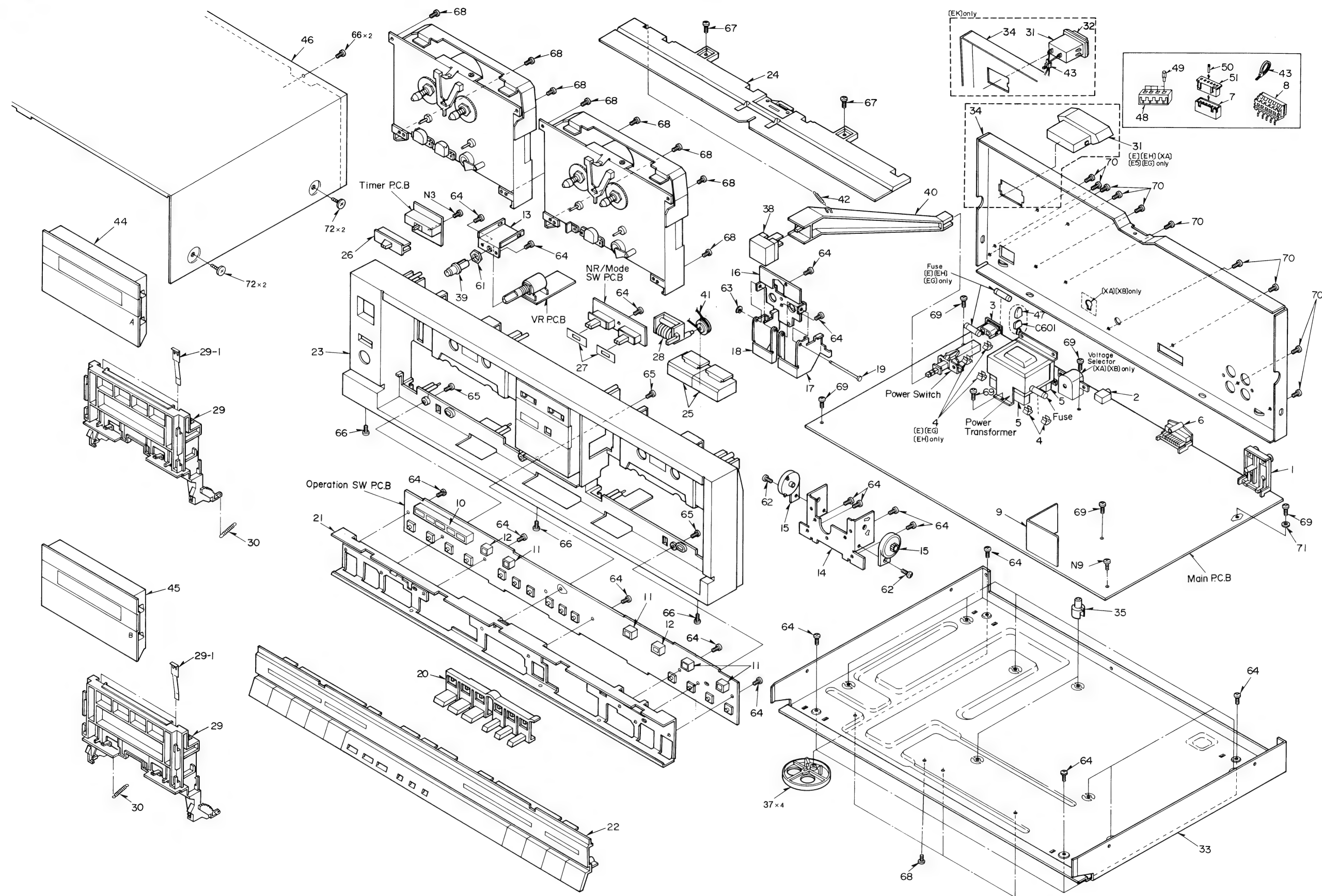
Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS				D612	MT25R6B	001 032 9506 7	DIODE
IC1	AN7016K	001 061 4629 4	I.C. PB/REC AMP.	D701A, D701B	LN89RCPP	001 032 7930 3	LED
IC2	MN6634	001 061 0884 7	I.C. SWITCH	D701C, D701D	LN89RCPP	001 032 7930 3	LED
IC3	AN6888	001 060 7693 9	I.C. METER DRIVE	D701E, D702	LN89RCPP	001 032 7930 3	LED
IC4	M5218L	001 060 3798 7	I.C. OPERATION AMP.	D703, D704	LN89RCPP	001 032 5729 0	LED
IC401, IC402	TEA0665	001 060 7933 2	I.C. DOLBY NR	D705, D706	LN89RCPP	001 032 7930 3	LED
IC901, IC902	BA6218	001 061 1421 0	I.C. MOTOR DRIVE	D707	LN89RCPP	001 032 7930 3	LED
IC903	LM6402G-2114	001 061 5318 2	INTEGRATED CIRCUIT	D708, D709	1SS133	001 032 3324 5	DIODE
TRANSISTORS				D710, D711	1SS133	001 032 3324 5	DIODE
Q1, Q2	2SA1115EF	001 030 4055 3	TRANSISTOR	D712, D713	1SS133	001 032 3324 5	DIODE
Q3, Q4	2SJ40CD	001 030 2807 5	TRANSISTOR	D714, D715	1SS133	001 032 3324 5	DIODE
Q5, Q6	2SK381	001 030 4439 1	TRANSISTOR	D716, D717	1SS133	001 032 3324 5	DIODE
Q7, Q8	2SA1115EF	001 030 4055 3	TRANSISTOR	D718, D719	1SS133	001 032 3324 5	DIODE
Q9, Q10	2SA1115EF	001 030 4055 3	TRANSISTOR	D720, D721	1SS133	001 032 3324 5	DIODE
Q11, Q12	2SC2603EFG	001 030 4301 8	TRANSISTOR	D723	1SS133	001 032 3324 5	DIODE
Q13, Q14	2SC2603EFG	001 030 4301 8	TRANSISTOR	D901	MT25R1AT77	001 033 0273 6	DIODE
Q15, Q16	2SC2603EFG	001 030 4301 8	TRANSISTOR	D902, D903	1SS133	001 032 3324 5	DIODE
Q17, Q18	2SD1330R	001 030 2521 6	TRANSISTOR	D904, D905	1SS133	001 032 3324 5	DIODE
Q19, Q20	DTA114ESTP	001 030 5275 9	TRANSISTOR	D906	1SS133	001 032 3324 5	DIODE
Q21	DTA114ESTP	001 030 5025 5	TRANSISTOR	D907	MT25R1AT77	001 033 0273 6	DIODE
Q22, Q23	DTA114ESTP	001 030 5275 9	TRANSISTOR	D908, D909	1SS133	001 032 3324 5	DIODE
Q24	DTA114ESTP	001 030 5275 9	TRANSISTOR	D910, D911	1SS133	001 032 3324 5	DIODE
Q25	2SA1115EF	001 030 4055 3	TRANSISTOR	D912	1SS133	001 032 3324 5	DIODE
Q26	2SD1330R	001 030 2521 6	TRANSISTOR	D913	MA4033M	001 032 5623 9	DIODE
Q27, Q28	DTA114ESTP	001 030 5275 9	TRANSISTOR	D914, D915	1SS133	001 032 3324 5	DIODE
Q29, Q30	2SA1115EF	001 030 4055 3	TRANSISTOR	D916, D917	1SS133	001 032 3324 5	DIODE
Q31, Q32	2SD1330R	001 030 2521 6	TRANSISTOR	D918, D919	1SS133	001 032 3324 5	DIODE
Q33	DTA114ESTP	001 030 5025 5	TRANSISTOR	D920, D921 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER
Q34	2SA1115EF	001 030 4055 3	TRANSISTOR	D924, D927	1SS133	001 032 3324 5	DIODE
Q35	DTA114ESTP	001 030 5025 5	TRANSISTOR	VARIABLE RESISTORS			
Q37, Q301	2SC2603EFG	001 030 4301 8	TRANSISTOR	VR1, VR2	EVND4AA00B24	001 180 2244 1	V.R., 20kΩ (B)
Q302	2SC2603EFG	001 030 4301 8	TRANSISTOR	VR3, VR4	EVND4AA00B24	001 180 2244 1	V.R., 20kΩ (B)
Q303	2SB1237QR	001 030 7423 7	TRANSISTOR	VR5, VR6	EVJRKAA025A54	001 174 8992 4	V.R., 50kΩ (A)
Q304	2SD1858QR	001 030 7425 5	TRANSISTOR	VR7, VR8	EVND4AA00B24	001 180 2244 1	V.R., 20kΩ (B)
Q305	2SB1237QR	001 030 7423 7	TRANSISTOR	VR11, VR12	EVND4AA00B15	001 180 2242 3	V.R., 100kΩ (B)
Q601	2SD1858QR	001 030 7425 5	TRANSISTOR	VR303	EVND4AA00B53	001 180 2319 9	V.R., 5kΩ (B)
Q602	2SB1237QR	001 030 7423 7	TRANSISTOR	VR901	EVND4AA00B14	001 180 2242 3	V.R., 10kΩ (B)
Q603, Q604	2SD1858QR	001 030 7425 5	TRANSISTOR	VR902	EVN4LCA00B24	001 180 3198 6	V.R., 20kΩ (B)
Q901	2SC2603EFG	001 030 4301 8	TRANSISTOR	VR903	EVND4AA00B14	001 180 2242 3	V.R., 10kΩ (B)
Q902	2SD1858QR	001 030 7425 5	TRANSISTOR	VR904	EVN4LCA00B24	001 180 3198 6	V.R., 20kΩ (B)
Q903, Q904	2SB1237QR	001 030 7423 7	TRANSISTOR	COILS AND TRANSFORMERS			
Q905	2SA1115EF	001 030 4055 3	TRANSISTOR	L1, L2	SLQX272-1YT	001 211 0649 2	CHOCK COIL
Q906	2SK381	001 030 4439 1	TRANSISTOR	L3, L4	SLQX303-1K	001 211 1756 6	CHOKE COIL
Q907	2SD1858QR	001 030 7425 5	TRANSISTOR	L401, L402	QLB40048	001 210 7275 9	COIL
Q931	2SC2603EFG	001 030 4301 8	TRANSISTOR	L403, L404	SLM188-K	001 211 2731 1	MPX COIL
Q932	2SD1858QR	001 030 7425 5	TRANSISTOR	T301	QLB0202	001 210 9090 8	COIL
Q933, Q934	2SB1237QR	001 030 7423 7	TRANSISTOR	T601 Δ	SLT5V14-S	001 202 9050 2	POWER TRANSFORMER
Q935	2SA1115EF	001 030 4055 3	TRANSISTOR	E, EG, EH			
Q936	2SK381	001 030 4439 1	TRANSISTOR	T601 Δ	SLT5V15-S	001 202 9051 1	POWER TRANSFORMER
Q937	2SD1858QR	001 030 7425 5	TRANSISTOR	EK, XL			
Q950	2SC2603EFG	001 030 4301 8	TRANSISTOR	T601 Δ	SLT5V16-S	001 202 9052 0	POWER TRANSFORMER
Q951	2SA1115EF	001 030 4055 3	TRANSISTOR	XA, XB			
Q952	DTA114ESTP	001 030 5025 5	TRANSISTOR	COMPONENT COMBINATIONS			
Q953	DTA114ESTP	001 030 5275 9	TRANSISTOR	Z1	EXBF5E472J8R	001 230 2223 9	COMPONENT COMBINATION
Q954, Q955	2SC2603EFG	001 030 4301 8	TRANSISTOR	OSCILLATORS			
Q956, Q957	2SC2603EFG	001 030 4301 8	TRANSISTOR	X901	SVFCSA400MG	001 241 1076 5	CERAMIC FILTER
Q958	2SC2603EFG	001 030 4301 8	TRANSISTOR	FUSES			
Q960	DTA114ESTP	001 030 5025 5	TRANSISTOR	F1, F2 Δ	XBA2C08TB0	002 380 1460 7	250V, T800mA
DIODES				F3 Δ	XBA2C20TB0	002 380 1352 0	250V, T2A
D1, D2	1SS133	001 032 3324 5	DIODE	E, EG, EH			
D3, D5	1SS133	001 032 3324 5	DIODE	SWITCHES			
D6, D9	1SS133	001 032 3324 5	DIODE	S601 Δ	ESB8249V	003 435 5877 0	POWER SWITCH
D10, D12	1SS133	001 032 3324 5	DIODE	S603 Δ	SSR187-1	003 430 2201 5	SW. VOLTAGE SELECT
D13, D14	1SS133	001 032 3324 5	DIODE	XA, XB			
D16, D17	1SS133	001 032 3324 5	DIODE	S701, S702	EVQQA005G	003 439 2072 1	SW
D301, D302	1SS133	001 032 3324 5	DIODE	S703, S704	EVQQA005G	003 439 2072 1	SW
D303, D304	1SS133	001 032 3324 5	DIODE	S705, S706	EVQQA005G	003 439 2072 1	SW
D601, D602 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER	S707, S708	EVQQA005G	003 439 2072 1	SW
D603, D604 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER	S709, S710	EVQQA005G	003 439 2072 1	SW
D605 Δ	SVD1SR35200A	001 032 3951 4	RECTIFIER	S711, S712	EVQQA005G	003 439 2072 1	SW
D606, D607	1SS133	001 032 3324 5	DIODE	S713, S714	EVQQA005G	003 439 2072 1	SW
D608	1SS133	001 032 3324 5	DIODE	S715, S716	SSS157	003 431 3020 9	SWITCH SLIDE
D609, D610	MT210B177	001 032 7571 6	DIODE	S717	SSS179	003 431 3923 9	SLIDE SWITCH
D611	MT210B177	001 032 7571 6	DIODE				

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
CABINET AND CHASSIS				34	SGPSX866-KG	016 840 7819 0	REAR PANEL
1	SJF3057N	003 410 3829 3	TERMINAL BOARD	EG			
2	SJJ130-2	003 400 7317 2	JACK	34	SGP7060-10A	016 840 7818 1	REAR PANEL
3	SJSD16	003 400 7436 6	AC SOCKET	XB			
XL				34	SGP7060-2D	016 840 7730 8	REAR PANEL
3	SJS9236	003 403 4660 7	AC SOCKET	EH			
E, EG, EH, EK, XA, XB				34	SGP7060-2B	016 840 7820 7	REAR PANEL
4	QTF1054	003 415 0168 4	FUSE HOLDER	E			
5	SJS703	003 403 7104 8	CONNECTOR	34	SGP7060-4A	016 840 7729 1	REAR PANEL
6	SJS804	003 403 4910 8	CONNECTOR	EK			
7	SJT3213	003 410 6011 5	CONNECTOR	34	SGP7060-6A	016 840 7821 6	REAR PANEL
7	SJT3319	003 403 3892 2	CONNECTOR	XA			
7	SJT3511	003 403 3893 6	CONNECTOR	34	SGP7060-8A	016 840 7822 5	REAR PANEL
7	SJT3611	003 410 6000 8	CONNECTOR	XL			
8	SJT30340LX-V	003 410 6075 9	LUG TERMINAL	35	SHE187-1	016 918 0584 9	SPACER
8	SJT30640LX-V	003 410 6149 8	CONNECTOR	37	SKL307	016 828 0325 7	FOOT
8	SJT30740LX-V	003 410 5990 7	LUG TERMINAL	38	SBC666-1	016 702 6076 0	BUTTON
9	SMCM14	016 601 0645 5	SHIELD COVER	39	SBN1222	016 700 1970 9	KNOB
10	LN058367P	001 032 9434 6	DIODE, GAASP	40	SUB264	016 712 0354 5	ROD
11	LN018365P	001 032 9523 4	DIODE, GAASP	41	SMQ20020	016 754 0062 0	ANGULAR BELT
12	LN013365P	001 032 9431 9	DIODE, GAASP	42	SUS852	016 726 0930 9	COIL SPRING
13	SUN3075	016 650 5346 6	ANGLE	43	QTD1315	015 645 0197 2	CORD CLAMPER
14	SMQ30042	016 650 5347 7	ANGLE	44	SYKM39	016 820 0606 1	CASSETTE LID
15	SMQX840-KN	016 745 0225 0	GEAR	45	SYKM40	016 820 0607 0	CASSETTE LID
16	SUN3061	016 650 5345 9	ANGLE	46	SKC2070K96	016 800 3038 1	CABINET
17	SMQ30043	016 718 3375 8	ANGLE	47	SMX897	016 600 0483 0	SHIELD SPACER
18	SMQ30044	016 718 3374 9	ANGLE	48	SJS5629	003 400 5917 2	CONNECTOR <6P>
19	SUX58	016 634 0144 8	BRACING STRUT	48	SJS5811	003 400 5930 5	CONNECTOR <8P>
20	SBC934	016 702 6947 8	BUTTON	49, 50	SJT773	003 410 6001 7	CONTACT
21	SUN3060	016 650 5346 8	ANGLE	51	SJS5215	003 400 5923 4	CONNECTOR <2P>
22	SGYSX866-KE1	016 840 7813 6	SUB PANEL	51	SJS5331	003 400 5924 3	CONNECTOR <3P>
23	SGYSX866-KE	016 840 7814 5	FRONT PANEL (K)	51	SJS5523	003 400 5916 3	CONNECTOR <5P>
24	SGX9030	016 846 3729 7	SPACER	51	SJS5629	003 400 5917 2	CONNECTOR <6P>
25	SBC935	016 702 6946 9	BUTTON	51	SJS5811	003 400 5930 5	CONNECTOR <8P>
26	SBD143	016 700 1971 8	KNOB	SCREWS, WASHERS & NUTS			
27	SHR5312	016 652 0550 6	SPACER	61	XNS7	005 507 1202 8	NUT
28	SJN25	016 892 0127 9	TAPE COUNTER	62	XTS3+8J	005 501 0712 5	SCREW
29	SGXSX866-KE	016 846 3841 8	CASSETTE HOLDER	63	XUC2FT	005 512 0126 6	E-RING
29-1	QBP2006A	015 727 0706 8	SPRING	64	XTB3+8J	005 501 1535 0	SCREW
30	SUS851	016 726 0931 8	SPRING	65	XTB3+12J	005 501 1534 1	SCREW
31	SJS9225	003 400 3946 5	AC OUTLET	66	XTB3+8JFFZ	005 501 0138 3	SCREW
E, EG, EH, XA, EK				67	XTB3+8JFFR	005 501 3569 2	SCREW
31	SJS9332B	003 403 7377 5	CONNECTOR	68	XTB3+10JFFR	005 501 2757 4	TAPPING SCREW
32	SJS9332A	003 403 7376 6	CONNECTOR	69	XTB3+20J	005 501 3410 4	SCREW
EK				70	XTBS3+8JFZ1	005 501 2523 0	SCREW
33	SKUSX866-KE	016 802 2195 3	BOTTOM BOARD	71	XWA38	005 513 1248 8	WASHER
				72	SNE2129-1	005 500 7938 6	SCREW

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
PACKINGS				A1	SQFM77	016 983 5213 6	INSTRUCTION BOOK
P1	SPS4983	016 977 3319 1	PAD	XB			
P2	SPGM105	016 971 5058 5	PACKING CASE	A1	SQFM82	016 983 5212 7	INSTRUCTION BOOK
E, EG, EH, XL, EK				XA			
P2	SPGM107	016 971 5069 2	CARTON BOX	A1	SQFM83	016 983 5211 8	INSTRUCTION BOOK
XA, XB				XL			

CABINET PARTS LOCATION



72		72 66		64		64 65 68 61		64		64 66 68		68 64 65		68 66 65		64 68		63 67 64		62 64		64 69 67 64 62		68		69 64		69		64		69 64		70		70		70		64		70 71 69 70			
44	45	46		39										41				37 38				42				40		34		34		47 31		43 32		35 31 48		49		33		50 51		43	
30	29-1 29	30	21 23 26	20		10		12		13 11		27 22		11 28 12 25				16 18 11 24 15		17 14				19		15 4		3 9 5		4 5				2				6		7		8 1			

DEUTSCH

Verwenden Sie bitte diese Broschüre zusammen mit der Service-Anleitung für das Modell Nr. RS-X866.

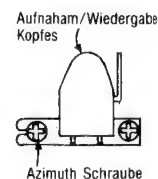
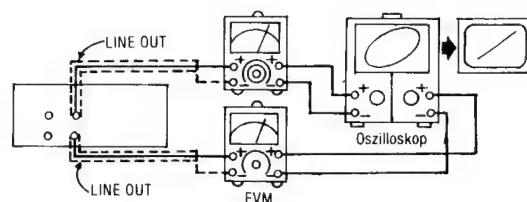
■ MESSUNGEN UND EINSTELL METHODEN

Meßinstrumente

- Elektronisches Voltmeter (EVM)
- Oszilloskop
- Digitaler Frequenzmesser
- Audiofrequenz-Oszillator
- Dämpfungswiderstand
- Gleichstrom-Voltmeter
- Widerstand (600Ω)

Kopfazimut-Justierung

1. Den Azimut-Justierungsteil (8kHz, -20dB) des Testbandes (QZZCFM) wiedergeben und die Winkel-Justierungseinstellschraube so verstellen, daß der Ausgang vom linken und rechten Kanal maximal wird. (Wenn die Justierpositionen für den linken und rechten Kanal verschieden sind, ist eine Position zu finden, wo der Ausgang des linken und rechten Kanals ausgeglichen ist, und dann ist die Justierung durchzuführen.)
2. Gleichzeitig eine Lissajous-Wellenform ziehen und Phasenablenkung eliminieren.
3. Nach erfolgter Justierung sind die Bandführungs-Höhen-und-Winkeljustierschrauben zu sichern.



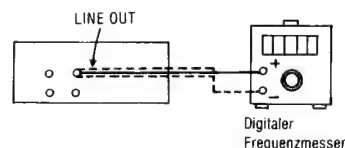
Bandgeschwindigkeits-Justierung (DECK A, B)

— Schneller bandlauf —

1. Stellen Sie den Bandgeschwindigkeitswählschalter auf "X2" und erden Sie Deck B an TP4 und Deck A an TP3.
2. Spielen Sie den Mittelteil des Testbandes (QZZCWAT) ab.
3. Justieren Sie VR904 von Deck B und VR902 von Deck A so, daß die Abgabewerte innerhalb der Standardwerte liegen.

— Normaler Bandlauf —

4. Stellen Sie den Bandgeschwindigkeitswählschalter auf "X1" und unterbrechen Sie Deck B in TP4 und Deck A in TP3.
5. Spielen Sie den Mittelteil des Testbandes (QZZCWAT) ab.
6. Justieren Sie VR903 von Deck B und VR901 von Deck A so, daß die Abgabewerte innerhalb der Standardwerte liegen.



Standardwert: 3000^{+15}_{-10} Hz (Normal), 6000 ± 30 Hz (Schnell)

Wiedergabe-Frequenzgang (DECK A, B)

1. Den Wiedergabe-Frequenzgangteil (315 Hz, 12,5 kHz ~ 63 Hz, -20 dB) des Testbandes (QZZCFM) wiedergeben.
2. Überprüfen, ob der Frequenzgang innerhalb des in Abb. 2 für den linken und rechten Kanal gezeigten Bereichs liegt.

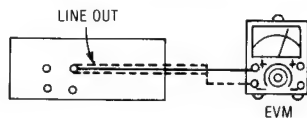


Abb. 1

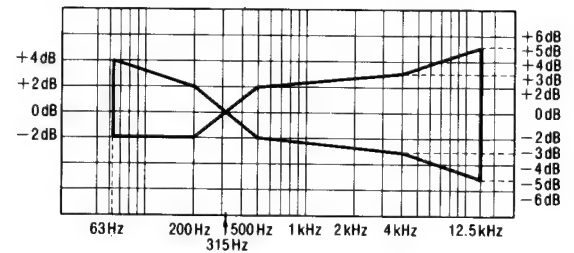


Abb. 2

Justierung des Wiedergabe-Verstärkungsgrades (DECK A, B)

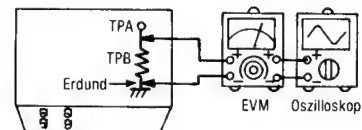
1. Der Testaufbau ist in Abb. 1 gezeigt.
2. Den für den Wiedergabe-Verstärkungsgrad justierten Teil (315 Hz, 0 dB) des Testbandes (QZZCFM) wiedergeben.
3. Den VR1, (linker Kanal) [[VR4 (rechter Kanal)]] für Deck B und den VR3 (linker Kanal) [[VR2 (rechter Kanal)]] für Deck A so justieren, daß die Ausgangsleistung dem Standard-Wert entspricht.

Standard-Wert: $0,4V \pm 0,5dB$

Löschstrom-Justierung (DECK A)

1. Eine Reineisenband-Cassette einsetzen.
2. Die Aufnahmetaste und die Pausentaste drücken.
3. Den VR303 so justieren, daß die Ausgangsleistung zwischen TP1 und Masse dem Standard-Wert entspricht.

Standard-Wert: $170 \pm 10mA$ (Metal), ($170 \pm 10mV$)



**TPA: TP1
TPB: VR303**

Gesamtfrequenzgang (DECK A)

1. Legen Sie eine normale Leerkassette (QZZCRA) ein und nehmen ein Signal (50 Hz ~ 12,5 kHz) von 20 dB auf, das durch das Referenzeingabepegelsignal (1 kHz, -24 dB) gedämpft wird.
2. Das in Schritt 1 aufgezeichnete Signal wiedergeben und prüfen, ob der Pegel jeder Ausgangsfrequenz im Bereich liegt, der in Abb. 4 im Vergleich zur Referenzfrequenz (1 kHz) gezeigt wird.
3. Falls er nicht im Standard-Bereich liegt, ist der Vormagnetisierungsstrom mit VR11 (linker Kanal) [[VR12 (rechter Kanal)]] so zu justieren, daß der Frequenzpegel innerhalb des Standards zu liegen kommt.
 - Erhöhter Pegel im Frequenzbereich.....Den Vormagnetisierungsstrom erhöhen.
 - Reduzierter Pegel im Frequenzbereich.....Den Vormagnetisierungsstrom senken.
4. Anschließend das auf der CrO2-Leerband-Cassette (QZZCRX) und der Reineisenband-Leercassette (QZZCRZ) aufgezeichnete Signal auf 14 kHz erhöhen und auf gleiche Weise justieren, wie vorgehend beschrieben. Dann überprüfen, ob der Frequenzpegel innerhalb des in Abb. 5 gezeigten Bereichs liegt.

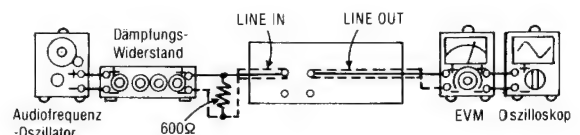


Abb. 3

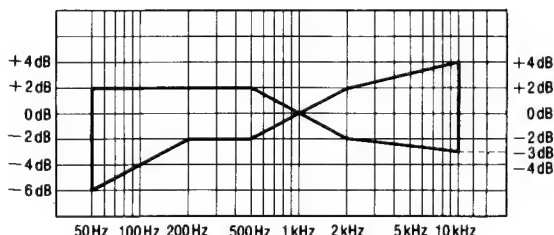


Abb. 4

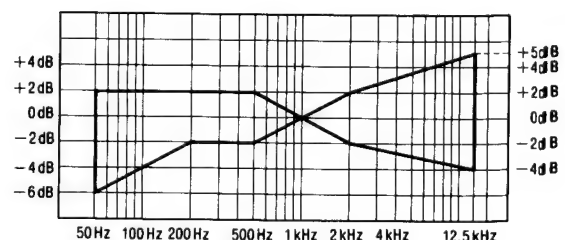


Abb. 5

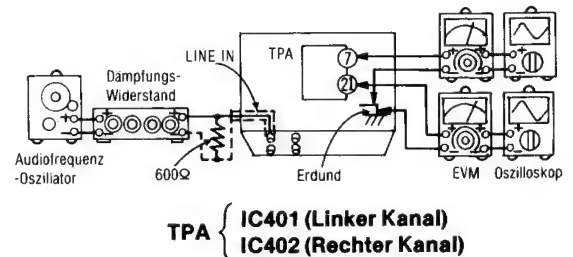
Justierung des Gesamtverstärkungsgrades (DECK A)

1. Der Testaufbau ist in Abb. 3 gezeigt.
2. Eine Normalband-Leercassette (QZZCRA) einsetzen und im Aufnahmepause-Zustand des Gerätes das Referenzsignal (1 kHz, -24 dB) eingeben.
3. Die Ausgangsleistung mit dem Dämpfungswiderstand auf 0,4 V justieren und dann aufnehmen.
4. Das in Schritt 3 aufgezeichnete Signal wiedergeben und überprüfen, ob die Ausgangsleistung dem Standard-Wert entspricht.
5. Falls sie nicht dem Standard-Wert entspricht, ist der VR7 (linker Kanal) [[VR8 (rechter Kanal)]] zu justieren, und dann sind die Schritte (2), (3) und (4) zu Wiederholen, bis die Ausgangsleistung dem Standard-Wert entspricht.

Standard-Wert: $0,4\text{ V} \pm 0,5\text{ dB}$

Dolby-Rauschunterdrückungs-Schaltkreis

1. Eine Normalband-Cassette einsetzen und im Aufnahmepause-Zustand des Gerätes ein 1 kHz-Signal eingeben.
2. Mit dem Dämpfungswiderstand so justieren, daß die Ausgangsleistung zwischen Anschluß ⑦ des IC401 (linker Kanal) [[IC402 (rechter Kanal)]] und Masse 12,3 mV beträgt.



—Dolby B (Dolby-C) (Kodierungseigenschaft)—

3. Den Rauschunterdrückungs-Schaltkreis (NR) auf "Dolby B (Dolby C)" einstellen und das Eingangssignal auf 1 kHz, 5 kHz verändern.
4. Überprüfen, ob die Ausgangsleistung zwischen Anschluß ② des IC401 (linker Kanal) [[IC402 (rechter Kanal)]] und Masse wie vorgeschrieben gegenüber dem Pegel im rauschunterdrückungsfreiem Zustand verändert wird.

Dolby-B:

Standard-Wert: $6 \pm 2,5\text{ dB}$ (1 kHz), $8 \pm 2,5\text{ dB}$ (5 kHz)

Dolby-C:

Standard-Wert: $11,5 \pm 2,5\text{ dB}$ (1 kHz), $8,5 \pm 2,5\text{ dB}$ (5 kHz)

FRANÇAIS

Ceci est à utiliser conjointement avec le manuel d'entretien du modèle No. RS-X866.

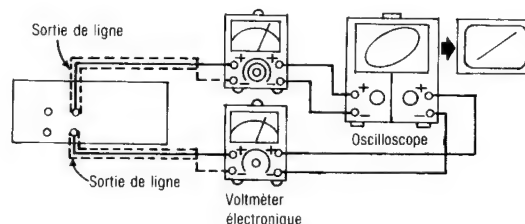
METHODES DES MEASURES ET REGLAGES

Appareils de mesurage

- Voltmètre électronique
- Oscilloscope
- Compteur de fréquence numérique
- Oscillateur de fréquence audio
- A.T.T. (Atténuateur)
- Voltmètre à C.C.
- Résistance (600Ω)

Réglage de l'angle des têtes de lecture

1. Faire jouer la partie réglée azimutale (8kHz, -20dB) de la bande d'essai (QZZCFM) et régler la vis de mise au point azimutale de telle sorte que les puissances de sortie du canal de gauche et du canal de droite soient au maximum. (Si les positions de réglage du canal de gauche et du canal de droite sont différentes, trouver une position où les puissances de sortie des canaux de gauche et de droite soient équilibrées, puis effectuer la mise au point.)
2. En même temps, établir une forme d'onde de Lissajous et éliminer la déviation de phase.
3. Après le réglage, bloquer les vis du réglage angulaire, et de la hauteur des guides de bande.



Tête en Enregistrement/
Lecture
Vis d'azimutage

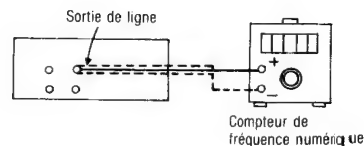
Réglage de la vitesse de défilement de la bande (PLATINE A, B)

— A grande vitesse —

1. Régler le commutateur de vitesse de défilement de la bande de montage sur "X2" et relier à la terre la platine B sur TP4 et la platine A sur TP3.
2. Faire jouer la partie centrale de la bande d'essai (QZZCWAT).
3. Ajuster la platine B sur VR904 et la platine A sur VR902 de telle sorte qu la puissance de sortie soit en deçà de la normale.

— Vitesse normale —

4. Régler le commutateur de vitesse de défilement de la bande de montage sur "X1" et mettre hors circuit la platine B sur TP4 et la platine A sur TP3.
5. Faire jouer la partie centrale de la bande d'essai (QZZCWAT).
6. Ajuster la platine B sur VR903 et la platine A sur VR901 de telle sorte que la puissance de sortie soit en deçà de la normale.



Valeur standard: $3000 \pm_{-10}^{+15}$ Hz (normale); 6000 ± 30 Hz (élevée)

Réponse en fréquence de la lecture (PLATINE A, B)

1. Faire jouer la partie de la réponse en fréquence de la lecture (315Hz, 12,5kHz~63Hz, -20dB) de la bande d'essai (QZZCFM).
2. Vérifier que la fréquence soit en deçà de la plage montrée à la Fig. 2, à la fois pour le canal de gauche et le canal de droite.

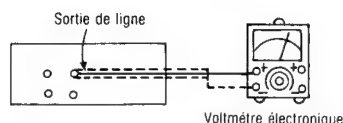


Fig. 1

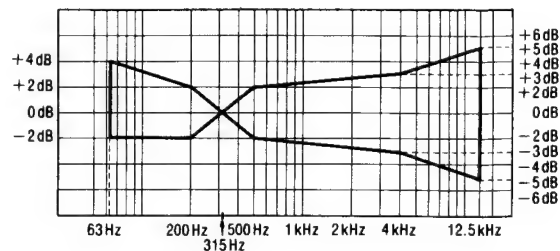


Fig. 2

Réglage d'amplification de la lecture (PLATINE A, B)

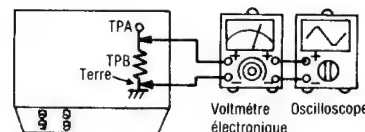
1. Le raccordement de l'équipement d'essai est montré à la Fig. 1.
2. Faire jouer la partie réglée d'amplification de la lecture (315Hz, 0dB) de la bande d'essai (QZZCFM).
3. Régler la platine B: VR1 (canal de gauche) [[VR4 (canal de droite)]] et la platine A: VR3, (canal de gauche) [[VR2 (canal de droite)]] de telle sorte que la puissance de sortie soit en deçà de la normale.

Valeur normalisée: $0,4V \pm 0,5dB$

Réglage de la tention d'effacement (PLATINE A)

1. Introduire la bande métallisée.
2. Appuyer sur les touches d'enregistrement et d'intermission.
3. Régler VR303 de telle sorte que la puissance de sortie entre TP1 et la masse soit en deçà de la normale.

Valeur normalisée:
 $170 \pm 10mA$ (Métallisée) ($170 \pm 10mV$)



TPA: TP1
TPB: VR303

Réponse en fréquence globale (PLATINE A)

1. Installer une bande vierge normale (QZZCRA) et enregistrer en appliquant un signal (50Hz~12,5kHz), 20dB atténués à partir du signal du niveau d'entrée de référence (1kHz, -24dB).

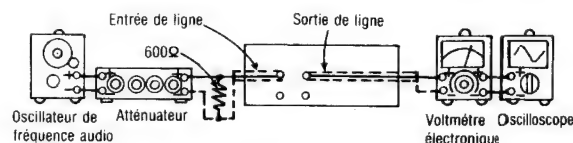


Fig. 3

2. Faire jouer le signal enregistré à l'étape 1 et vérifier que le niveau de chaque fréquence de sortie soit en deçà de la plage montrée à la Fig. 4 en comparaison avec la fréquence de référence (1kHz).
3. S'il n'est pas en deçà de la plage standard, régler le courant de polarisation avec VR11 (canal de gauche) [[VR12 (canal de droite)]] de telle sorte que le niveau de fréquence soit en deçà de la normale.
 - Niveau vers la haut dans la plage de fréquence élevéeAugmenter le courant de polarisation.
 - Niveau vers le bas dans la plage de fréquence élevéeDiminuer le courant de polarisation.
4. Après cela, amplifier le signal enregistré sur la bande vierge CrO2 (QZZCRX) et la bande vierge métallisée (QZZCRZ) jusqu'à 15kHz et régler de la même manière que celle mentionné ci-dessus. Puis, vérifier que le niveau de fréquence soit en deçà de la plage montrée à la Fig. 5.

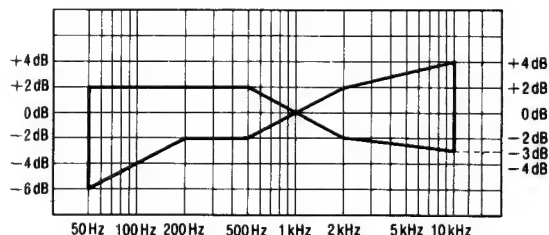


Fig. 4

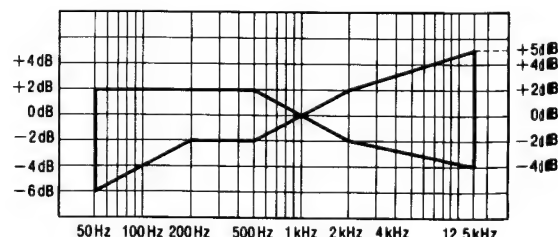


Fig. 5

Réglage d'amplification globale (PLATINE A)

1. Le raccordement de l'équipement d'essai est montré à la Fig. 3.
2. Installer une bande vierge normale (QZZCRA) et appliquer le signal de niveau d'entrée de référence (1 kHz, -24 dB) sur le mode d'intermission d'enregistrement.
3. Régler la puissance de sortie 0.4 V avec L'atténuateur, puis enregistrer.
4. Faire jouer le signal enregistré à l'étape 3 et vérifier que la puissance de sortie soit en deçà de la normale.
5. Si elle n'est pas en deçà de la normale, régler platine B: VR7 (canal de gauche) [[VR8 (canal de droite)]] et répéter les étapes (2), (3) et (4) jusqu'à ce que la puissance de sortie soit en deçà de la normale.

Valeur normalisée: $0,4V \pm 0,5dB$

Circuit de réduction des bruits Dolby

1. Installer une bande normale et appliquer un signal de 1 kHz sur le mode d'intermission d'enregistrement.
2. Régler avec l'atténuateur de telle sorte que la puissance de sortie entre la borne ⑦ de IC401 (canal de gauche) [[IC402 (canal de droite)]] et la masse soit de 12,3 mV.

— Dolby B (Caractéristiques de codage) —

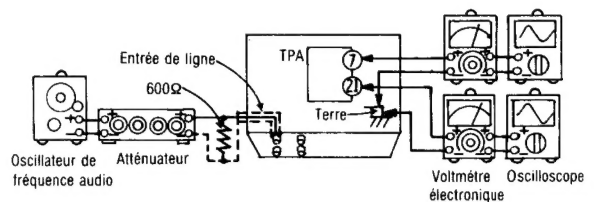
3. Régler le commutateur de réduction des bruits sur "Dolby B" et changer le signal d'entrée sur 1 kHz, 5 kHz.
4. Vérifier que la puissance de sortie entre la borne 21 de IC401 (canal de gauche) [[IC402 (canal de droite)]] et la masse change tel qu'il est spécifié à partir du niveau d'entrée sur le mode de sortie de réduction des bruits.

Valeur normalisée: $6 \pm 2,5dB$ (1 kHz), $8 \pm 2,5dB$ (5 kHz)

— Dolby C (Caractéristiques de codage) —

5. Régler le commutateur de réduction des bruits sur "Dolby C" et changer le signal d'entrée sur 1 kHz, 5 kHz.
6. Vérifier que la puissance de sortie entre la borne 21 de IC 401 (canal de gauche) [[IC402 (canal de droite)]] et la masse change tel qu'il est spécifié à partir du niveau d'entrée sur le mode de sortie de réduction des bruits.

Valeur normalisée: $11,5 \pm 2,5dB$ (1 kHz), $8,5 \pm 2,5dB$ (5 kHz)



**TPA: { IC401 (Canal de gauche)
IC402 (Canal de droite)**

ESPAÑOL

Sírvase utilizarse junto con manual de servicio para el model No. RS-X866.

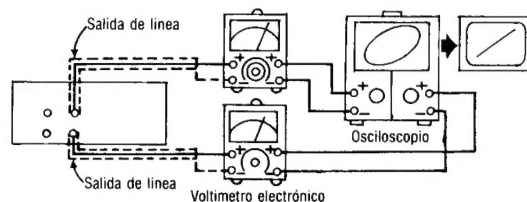
MÉTODOS DE AJUSTE Y MEDIDA

Instrumento de medición

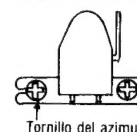
- EVM (Voltímetro electrónico)
- Osciloscopio
- Frecuencímetro digital
- Oscilador AF
- ATT (Atenuador)
- Voltímetro CC
- Resistor (600Ω)

Ajuste acimutal de cabeza (PLATINA A, B)

1. Reproducir la parte ajustada de acimut (8kHz, -20dB) de la cinta de prueba (QZZCFM) y regular el tornillo de ajuste de ángulo de manera que las salidas de CH-I y CH-D sean maximizadas. (Cuando las posiciones de ajuste sean diferentes de CH-I y CH-D, encontrar una posición donde las salidas de CH-I y CH-D estén equilibradas y, luego, hacer el ajuste.)
2. Al mismo tiempo, trazar una forma de onda de lissajous y eliminar la deflexión de fase.
3. Después del ajuste, fije los tornillos de ajuste de altura y ángulo de guía de cinta.



Cabeza de Grab/Reprod



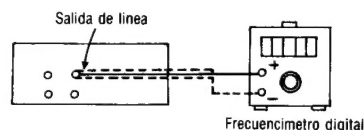
Ajuste de velocidad de cinta (PLATINA A, B)

— Alta velocidad —

1. Poner el conmutador de velocidad de cinta de compaginación en "X2" y poner a tierra la Platina B: TP4 y Platina A: TP3.
2. Reproducir la parte de en medio de la cinta de prueba (QZZWAT).
3. Ajustar la Platina B: VR904 y Platina A: VR902 de manera que la salida esté dentro de la estándar.

— Velocidad normal —

4. Poner el conmutador de velocidad de cinta de compaginación en "X1" y abra la Platina B: TP4 y Platina A: TP3.
5. Reproducir la parte de en medio de la cinta de prueba (QZZCWAT).
6. Ajustar la Platina B: VR903 y Platina A: VR901 de manera que la salida esté dentro de la estándar.



valor estándar: 3000^{+15}_{-10} Hz (normal) 6000 ± 30 Hz (alta)

Respuesta de frecuencia de reproducción (PLATINA A, B)

1. Reproducir la parte de respuesta de frecuencia de reproducción (315 Hz, 12,5 kHz ~ 63 Hz, -20 dB) de la cinta de prueba (QZZCFM).
2. Comprobar que la frecuencia esté dentro de la gama mostrada en la Fig. 2 tanto para CH-I como para CH-D.

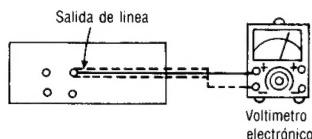


Fig. 1

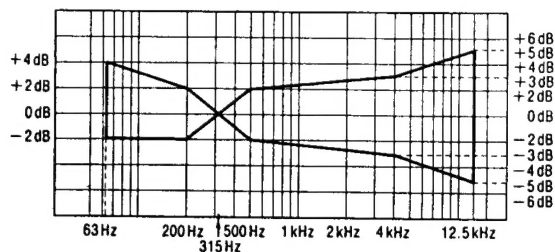


Fig. 2

Ajuste de ganancia de reproducción (PLATINA A, B)

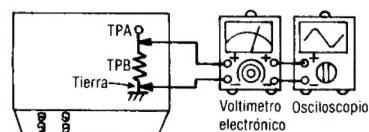
1. La conexión del equipo de prueba se muestra en la Fig. 1.
2. Reproducir la parte ajustada de la ganancia de reproducción (315 Hz, 0 dB) de la cinta de prueba (QZZCFM).
3. Ajustar la platina B: RV1 (CH-I) [[RV4 (CH-D)]] y la platina A: RV3, (CH-I) [[RV2 (CH-D)]] de manera que la salida esté dentro de la estándar.

Valor estándar: $0,4V \pm 0,5dB$

Ajuste de corriente de borrado (PLATINA A)

1. Insertar la cinta metálica.
2. Apretar los botones de grabación y pausa.
3. Ajustar RV303 de manera que la salida entre TP1 y tierra esté dentro de la estándar.

Valor estándar: $170 \pm 10mA$ (Metal) $170 \pm 10mV$



**TPA: TP1
TPB: RV303**

Respuesta de frecuencia total (PLATINA A)

1. Poner una cinta virgen normal (QZZCRA) y grabar aplicando señal (50 Hz ~ 12.5 kHz) 20 dB atenuada de la señal de nivel de entrada de referencia (1 kHz, -24 dB).
2. Reproducir la señal grabada en el paso 1 y comprobar que el nivel de cada frecuencia de salida esté dentro de la gama mostrada en la Fig. 4 en comparación con la frecuencia de referencia (1 kHz).
3. Si no está dentro de la gama estándar, ajustar la corriente de polarización mediante RV11 (CH-I) [[RV12 (CH-D)]] de manera que el nivel de frecuencia esté dentro del estándar.
 - Subir el nivel en la gama de alta frecuencia.....Incrementar la corriente de polarización.
 - Bajar el nivel en la gama de alta frecuencia.....Disminuir la corriente de polarización.
4. Después de eso, incrementar la señal grabada en la cinta virgen CrO2 (QZZCRX) y la cinta virgen metálica (QZZCRZ) hasta 14 kHz y ajustar de la misma manera como mencionado arriba y comprobar que el nivel de frecuencia esté dentro de la gama mostrada en la Fig. 5.

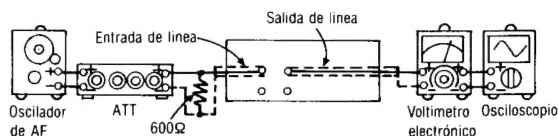


Fig. 3

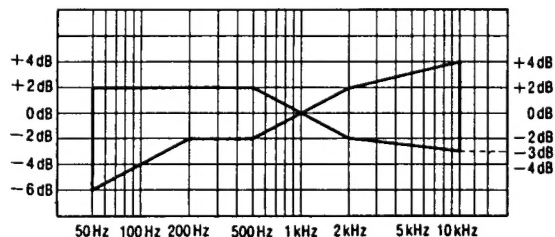


Fig. 4

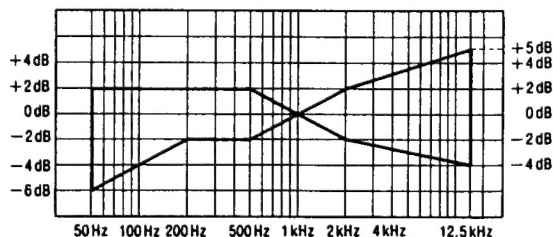


Fig. 5

Ajuste de ganancia total (PLATINA A)

1. La conexión del equipo de prueba se muestra en la Fig. 3.
2. Colocar una cinta virgen normal (QZZCRA) y aplicar la señal de nivel de entrada de referencia (1 kHz, -24 dB) en la modalidad de pausa de grabación.
3. Ajustar la salida 0,4 V mediante atenuador y, luego, grabar.
4. Reproducir la señal gradada en el paso 3 y comprobar que la salida esté dentro de la estándar.
5. Si no está dentro de la estándar, ajustar RV7 (CH-I) [[RV8 (CH-D)]] y repetir el paso (2), (3) y (4) hasta que la salida esté dentro de la estándar.

Valor estándar: $0,4V \pm 0,5dB$

Circuito RR Dolby

1. Colocar una cinta normal y aplicar señal 1 kHz en la modalidad de pausa de grabación.
2. Ajustar mediante atenuador de manera que la salida entre terminal ⑦ de IC401 (CH-I) [[IC402 (CH-D)]] y tierra sea 12,3 mV.

—Dolby B (Codificar característica)—

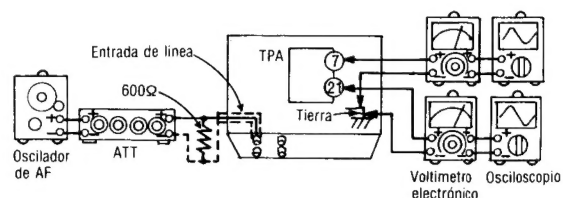
3. Poner el interruptor RR en "Dolby B" y cambiar la señal de entrada a 1 kHz, 5 kHz.
4. Comprobar que la salida entre terminal ② de IC401 (CH-I) [[IC402 (CH-D)]] y tierra cambie como especificado por el nivel en la modalidad de salida RR.

Valor estándar: $6 \pm 2,5dB$ (1 kHz), $8 \pm 2,5dB$ (5 kHz)

—Dolby C (Condicionar característica)—

5. Poner el interruptor RR en "Dolby C" y cambiar la señal de entrada a 1 kHz, 5 kHz.
6. Comprobar que la salida entre terminal ② de IC401 (CH-I) [[IC402 (CH-D)]] y tierra cambie como especificado por el nivel en la modalidad de salida RR.

Valor estándar: $11,5 \pm 2,5dB$ (1 kHz), $8,5 \pm 2,5dB$ (5 kHz)



TPA: { IC401 (CH-I)
IC402 (CH-D)